FT BELVOIR VA 22060-6221

SOFTWARE PROFESSIONAL DEVELOPMENT PROGRAM TRAINING GUIDE

SOFTWARE MISSION STATEMENT

The DCMC Software community provides Contract Administration Services (CAS) functions for the DoD software acquisition life cycle management process of Mission Critical Computer Resource Software in direct support of DCMC customers. The challenge is to ensure the efficient delivery of contractually compliant, high quality software systems in a continuously improving environment that meets or exceeds the Warfighters' requirements delivered on time and within budget.

FOREWORD

This Training Guide (TG) provides procedures for the Defense Contract Management Command (DCMC) Software Professional Development Program (SPDP). The SPDP is designed to ensure that software professionals have the necessary knowledge, skills and abilities (KSAs) to perform Contract Administration Services (CAS) functions credibly and consistently. It is the responsibility of immediate supervisors to ensure compliance with the requirements specified herein. Use of this document by management personnel is required when planning, prioritizing and scheduling training for software personnel. For the purpose of the SPDP TG, "immediate supervisor" identifies individuals who have supervisory responsibility and report to management; "higher level supervisor" identifies management personnel who oversee more than one immediate supervisor. The application process for entrance in the SPDP is necessary to allow the management of the budget, planning of course offerings, and resource identification.

The SPDP supersedes the software portions of the Quality Assurance Technical Development Program, DLAM 8220.4, and the Program and Technical Support Career Development Program, DLAM 8500.5 (draft) by providing a unified curriculum and addressing technical skills needed to perform in the challenging field of software surveillance. The SPDP is a DCMC training program and is in addition to the Defense Acquisition Workforce Improvement Act (DAWIA), which prescribes DoD mandatory and desired training for the acquisition workforce.

The SPDP provides for certification at three levels in the Software Surveillance skill area. Additional training may be identified by immediate supervisors who may request assistance in identifying additional training needs from the district staff specialist, as necessary, from the Defense Contract Management District (DCMD) Software Staff. SPDP certification is mandatory for all civilian and military personnel who perform or directly support CAS functions of software development. The SPDP also contains mandatory training requirements for managers, team leaders and supervisors who interface with software surveillance professionals. The success of the SPDP is dependent upon the immediate supervisor properly ensuring scheduling and completion of required training and any additional training that may be needed to perform the software surveillance mission.

Throughout this document the term DCMD applies equally to Defense Contract Management Command International (DCMCI).

You are encouraged to submit recommended improvements to the SPDP and its associated processes through channels to HQ DCMC-AQOF (Product Design, Development & Control Team), 8725 J. J. Kingman Rd., Ft Belvoir VA 22060-6221 or to DCMDE-JB, ATTN: SPDP Lead Agent (LA), 495 Summer St, Boston MA 02210-2184.

LIST OF ABBREVIATIONS

AFIT	U.S. Air Force Institute of Technology
AQO	HQ, DCMC Contract Management and Policy
AQOF	Product, Design, Development and Control Team HQ DCMC
AQOJ	Workforce Development Team HQ DCMC
ATE	Automatic Test Equipment
CAO	Contract Administration Office
CAS	Contract Administration Services
CASE	Computer Aided Software Engineering
CDRL	Contract Data Requirements List
COCOMO	Constructive Cost Model
CM	Configuration Management
CMM	Capability Maturity Model
COTS	Commercial Off-The-Shelf
CPM	Contractor Performance Measurement
CPR	Contractor Performance Report
CRLCMP	Computer Resources Life Cycle Management Plan
CRWG	Computer Resource Working Group
C/SCSC	Cost/Schedule Control Systems Criteria (also known as C Squared or Earned Value)
C/SSR	Cost/Schedule Status Report
DBMS	Defense Business Management System
DBMS-TSS	Defense Business Management System-Training Subsystem
DCMC	Defense Contract Management Command
DCMCI	Defense Contract Management Command International
DCMD	Defense Contract Management District
DCMDE-J	Defense Contract Management District East - Workforce Development Directorate
DCPSO	Defense Logistics Agency Civilian Personnel Support Office
DID	Data Item Description
DLA-CAH	The Executive Director, Human Resources
DoD	Department of Defense
EV	Earned Value
FA	Field Activities
FAR	Federal Acquisition Regulation
HOL	High Order Language
HQ	Headquarters
ICWG	Interface Control Working Group
IDP	Individual Development Plan
IRS	Interface Requirements Specification
ISO	International Organization for Standardization
JLC	Joint Logistics Command
JGSE	Joint Group for Systems Engineering
KDSI	Thousands of Deliverable Source Instructions
KPA	Key Process Areas
KSA	Knowledge, Skills and Abilities
L3DP	SPDP Level III Development Program/Plan

LA	Lead Agent
LOD	Letter of Delegation
MCCR	Mission Critical Computer Resources
MM	Man Months
MOA	Memorandum of Agreement
OPI	Office of Primary Interest
PARM	Personnel and Resource Model
PLFA	Primary Level Field Activity
PMO	Program Management Office
POI	Program of Instruction
QA	Quality Assurance
PROCAS	Process Oriented Contract Administration Services
REVIC	Revised Intermediate COCOMO
RFP	Request for Proposal
ROI	Return on Investment
SAL	Software Activity Log
SC	Software Center
SCE	Software Capability Evaluation
SCM	Software Configuration Management
SWCMM	Software Capability Maturity Model
SCMP	Software Configuration Management Plan
SDCCR	Software Development Capability/Capacity Review
SDCE	Software Development Capability Evaluation
SDD	Software Design Document
SDLC	Software Development Life Cycle
SDP	Software Development Plan
SECMM	Systems Engineering Capability Maturity Model
SEI	Software Engineering Institute
SEPG	Software Engineering Process Group
SLOC	Source Lines of Code
SPA	Software Process Assessment
SPDP	Software Professional Development Program
SPECS	Software Professional Estimating and Collection System
SQAP	Software Quality Assurance Plan
SQE	Software Quality Evaluation
SQPP	Software Quality Program Plan
SSA	Software Surveillance Applications
SSE	Software Surveillance Evaluations
SSF	Software Surveillance Fundamentals
SRS	Software Requirements Specifications
SW	Software
TBD	To be determined
TA	Technical Advisor
TC	Training Coordinator
TE	Technical Expert
TG	Training Guide

TSN	Technical Support to Negotiations
WPARM	Windows Personnel and Resource Model

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SECTION I

INTRODUCTION

1-100 PURPOSE. This training guide establishes a uniform program to provide software technical development training to DCMC software surveillance professionals and management. The purpose of the SPDP is to assure that a highly qualified, consistent and credible workforce is available to perform DCMC's software mission and to consistently meet or exceed customer expectations and needs. DCMC software surveillance professionals are expected to perform all software surveillance contract administration services functions throughout the software acquisition life cycle. These functions are in direct support of DCMC customers and effect continuous improvement in contractor related software development processes. The criteria in the SPDP ensures that the workforce skills are credible and consistent across the Command.

1-101 GENERAL.

a. The attainment of a high level of technical competence is an essential element of the career plan for software professionals. The SPDP is designed to provide the means by which personnel can clearly define and achieve the technical development goals required to perform their duties and complete their career plans. The objectives of the SPDP are to:

(1) Identify software technical development training needs.
(2) Identify and maintain the skills needed to meet the software surveillance mission.
(3) Provide training to maintain a high level of technical competence.
(4) Give management flexibility to tailor technical development requirements to individual needs.
(5) Give credit for prior training and experience.
(6) Give recognition of proficiency and training measured against established criteria.
(7) Provide for cost effective implementation.
(8) Develop and maintain a qualified workforce to perform creditable software surveillance in a consistent manner.

b. The SPDP is a three-tiered certification program based on progressive levels of training and certification which are tied to performance and experience. This approach allows for the effective management of resources to perform surveillance of software development throughout all phases of the software acquisition life-cycle process. It provides a means for managers to track career progression and to understand the capability of the software professional in meeting contractual surveillance requirements applicable to each level. It is the responsibility of each software professional to attain a high level of expertise and performance consistent with the DCMC mission statement. Descriptions of each certification level are as follows:

(1) **Level I-Introductory Level**. With guidance, software professionals at this level are capable of performing software surveillance for compliance-related activities of system development contracts and software process evaluation of system production and maintenance contracts. Examples of tasks associated with this level are:

(a) Compliance to contract.
(b) Control of baselined products.
(c) Test witnessing.
(d) Reviews of software for nondeliverable applications, when applicable.
(e) Evaluations of contractor software quality assurance activities.
(f) Participates in Cost and Schedule analysis and estimation.
(g) Software data collection and analysis.
(h) Subcontractor control.
(I) Participates in the evaluation of contractor proposals (TSNs).

NOTE: These activities are all to be performed with "guidance". It is not meant to imply Level I personnel have sole responsibility to perform any of these tasks in their entirety.

(2) **Level II-Journey level.** Software professionals at this level are capable of performing surveillance throughout all phases of the software life cycle and systems processes related to software development. Examples of tasks associated with this level are:

(a) All level I tasks.
(b) Surveillance of contractor's program management system and subsystem.
(c) Prime Contractor Control of Subcontractor.
(d) Risk analysis and assessment.
(e) C/SCSC and C/SSR (Earned Value) analysis for software.
(f) Software engineering support and surveillance.
(g) Configuration management of software.
(h) Surveillance of software design and development.
(i) Software reliability and maintainability.
(j) Assessment of software key process areas as related to the capability maturity models.
(k) Technical support to negotiations.
(l) DD250 acceptance of deliverable software.
(m) SPDP mentorship.
(n) Instructor responsibilities.
(o) Surveillance of system activities related to software development.

(3) **Level III-Senior level.** Software professionals at this level are capable of performing surveillance throughout the entire system acquisition life cycle process. They possess a high degree of software expertise in specific areas, allowing their involvement in highly visible, advanced software assignments. Examples of tasks associated with this level are:

(a) All level II tasks.
(b) Development and delivery of training.
(c) Software Capability Evaluations (SCE) (lead/participate).
(d) Source selection teams.
(e) Interface with DOD and other federal agencies, educational institutions, and standards committees.
(f) DOD/DLA policy guidance and implementation teams.

(g) System capability reviews, (e.g., Software Development Capability Evaluation (SDCE), Systems Engineering Capability Maturity Model (SECMM), etc.)

c. The SPDP Training Curriculum for each level is detailed in Appendix A. (Depending upon contract assignment, additional requirements may be identified by the supervisor.)

d. Equivalency requests for some SPDP requirements are acceptable if they are based on documented education, experience, or similar training. Waivers for core requirements are discouraged since they defeat the purpose of this development program.

e. A mentor will be assigned to each Level I and II candidate enrolled in the SPDP. The mentor must be certified at Level II or III in the SPDP and be assigned by the DCMD SPDP Manager and Staff Software Professional. Mentors may reside at the CAO, a neighboring CAO, the District, or HQ DCMC. The purpose of the Mentorship Program is to ensure that individuals enrolled in the SPDP receive in-depth exposure to concepts encountered in the performance of software surveillance. Tasks and objectives for the mentor-guided work experience are listed in Appendix B. The Mentorship Program will be monitored by the DCMD SPDP Manager and Staff Software Professional. The assigned mentor will report progress as indicated in Section VI.

1-102 APPLICABILITY. The SPDP is mandatory for all DCMC civilian and military personnel performing CAS software surveillance functions. Personnel supervising, or directly supporting CAS of software development (team leaders, supervisors and managers of software professionals) are not required to obtain software surveillance certification. However, it is mandatory that they complete Software Surveillance Concepts for Managers, F/M32B. Software Surveillance Concepts for Commanders, F/M32A, is mandatory for Commanders. Training needs and accomplishments will be identified and included in each employee's Personnel Master Record Report through the DBMS Training Application.

1-103 RESPONSIBILITIES.

a. HQ Defense Logistics Agency (DLA - DCMC):

(1) AQOJ, Workforce Strategy Team will:. Consult with AQOF and SPDP Lead Agent on enhancements to the SPDP

(2) AQOF, Product Design, Development and Control Team will:

(a) Provide staff supervision over the implementation and operation of the SPDP.

(b) Serve as the technical advisor on certification issues and as approval authority for Level III certification and waivers to Level I, II, or III certification requirements.

(c) Serve as the lead for the Software Council which is comprised of the HQ SPDP Policy and Plans Software Professional, Software Center SPDP Manager or designated representative, SPDP Lead Agent, DCMD SPDP Managers, and DCMD Staff Software Professionals.

(3) The Executive Director, Human Resources, DLA-CAH will:

(a) Administer and evaluate employee development and training plans and policies to assure that DLA-wide training needs for required skills are met.

(b) Survey for, obtain, and make distribution of space allocations for service school training.

(c) Assist in developing appropriate DCMC SPDP agency job guidelines and position description language.

b. DCMC SPDP Lead Agent Delegation of Authority/Responsibilities:

Pursuant to the DCMC Lead Agent Delegation Guide, 5 February 1996, DCMDE-J is delegated the authority to act as the DCMC Lead Agent for SPDP courses and training programs. The reason is to move the operational aspects of the subject areas described below to the proper organizational levels. These activities are institutionalized in DCMC and no longer needed by HQ staff management. The SPDP Lead Agent (DCMDE-J) is responsible for coordinating with Headquarters and Districts on the skills training needs for all applicable SPDP courses and training programs as follows:

(1) Identifying/determining the DCMC (command-wide) needs for the subject courses and training programs via the DBMS Training Application, surveys, needs analysis, and communication with all Districts.

(2) Consolidating and analyzing the need for the subject courses and training programs on a command-wide basis.

(3) Preparing a plan of action and including funding in the annual budget request to support the subject courses and training programs.

(4) Managing the procurement of facilities, materials, instructors, etc. for the subject courses and training programs including communicating with DCPSO, service schools, and other Government proponents.

(5) Managing the notification and distribution of training opportunities and slots, including updating all appropriate databases or information systems.

(6) Recommending to the appropriate AQO team, the training and career development strategy for the Command, based on the DCMC Business Plan performance objectives and Corporate Training and Development Plan for the assigned subject area or training programs.

(7) Inputting training allocations and completions to the DBMS Training Application.

(8) Interfacing with course directors and subject matter experts on technical training issues.

(9) Working with AQOF, DCMC Software Center, DCMD SPDP Managers and DCMD Staff Software Professionals to review and recommend approval/disapproval of applications submitted for Level III certification.

(10) Issuing Level III certificates to approved applicants through DCMD Workforce Development Directorates. Issuing notices of disapproval to applicants not meeting minimum Level III requirements at the direction of the SPDP Council.

(11) Identifying training opportunity events for personnel who have applied for enrollment in the Level III Development Program, and, if it is relative to the candidates projected skill area, notify the individual of their chance to participate.

(12) Provide the necessary personnel and facilities, including electronic equipment (i.e. laptop computers) to provide the training listed above. Any further delegation must be approved by HQ DCMC.

(13) Provide students with status of course completions.

(14) Review and Analyze course critique sheets.

c. DCMC Software Center SPDP Manager Responsibilities:

(1) Evaluating the effectiveness of the subject courses or training programs.

(2) Identifying the need for new training development and/or the revision of outdated or inadequate training materials to the appropriate AQO team and recommending the training and career development strategy for the Command, based on the DCMC Business Plan performance objectives and Corporate Training and Development Plan, for the subject courses and training programs.

(3) Maintain awareness of DCMC Level III Skills.

(4) Identifying/approving ***new*** specialized or unique skill(s).

(5) Maintain a listing of courses determined to be equivalent to SPDP courses.

d. Defense Contract Management District Headquarters (DCMDs):

(1) DCMD Commanders will:

(a) Attend mandatory training: F/M32A, Software Surveillance Concepts for Commanders.

(b) Assign a high level of priority to fulfillment of training requirements and authorize appropriate funds in support of this objective.

(c) Provide overall management of the SPDP.

(d) Assure an environment that fosters the learning process is maintained for the training of software professionals.

(2) DCMD Workforce Development Directors will:

(a) Implement and effectively manage the SPDP.

(b) Periodically review the implementation of the SPDP and compliance by each CAO.

(c) Request the SPDP Lead Agent schedule sufficient classes to meet the DCMD software training needs.

(d) Identify and develop qualified instructors to conduct on-site courses.

(e) Involve the DCMD Staff Software Professional, as required, in assisting the immediate supervisor to determine employees' training requirements.

(f) Appoint an SPDP Workforce Development Manager who will perform the following duties:

(1) Preparation of and inputting data into the DBMS Training Application, and identifying/approving ***new*** specialized or unique skill(s).

(2) Maintaining a record of SPDP goals/accomplishments.

(3) Preparing, reviewing, and processing applicable forms, applications, and certificates.

(4) Assisting training coordinators in implementing the SPDP and in tracking SPDP certification accomplishments.

(5) Preparing certification certificates for presentation to the recipients. The completed certificates will be signed by the DCMD Commander and Workforce Development Director.

(6) Receiving and disseminating Level III certifications to successful applicants. Working with the DCMC SPDP Lead Agent and the Software Council to review and approve/disapprove applications submitted for Level III certification. Level III certificates will be prepared by the SPDP Lead Agent, signed by the DCMC Commander, and provided to the SC SPDP Manager. The SC SPDP Manager will forward the Level III certificates to the recipients and issue notification to the DCMD Staff Software Professional and CAO Commander.

(7) Informing individuals, through channels, of actions taken on requests for entry into the SPDP, equivalency or certification. When warranted, request additional information from individuals.

(8) Preparing on-site training schedules and providing a copy to the SPDP Lead Agent .

(9) Conferring with the DCMD Staff Software Professional on technical issues.

(h) Ensure the designation of a SPDP Manager with the following responsibilities.

(1) Reviewing enrollment applications in the SPDP, identifying training as priority one or two, and designating mentors.

(2) Reviewing certification applications, approving Level I and II certification, and providing recommendations on applications for Level III certification.

(3) Approving Level III IDPs and Level III training and specialized skills accomplishments.

(4) Reviewing course descriptions for related training sources and recommending dispositioning of such training for equivalency. (The SC SPDP Manager maintains a listing of courses determined to be equivalent to SPDP courses.)

(5) Reviewing documentation for previous experience and dispositioning substitution of experience for required training.

(6) Administering the final examination of equivalency tests, when applicable.

(7) Reviewing and taking action on all cases of expired certification.

(8) Consulting with the DCMD Workforce Development Director, SPDP Lead Agent, and the DCMD Staff Software Professional to resolve problems. Problems that could possibly impact the overall SPDP will be referred to AQOJ for action.

(9) Participating on the DCMC SPDP Council.

(10) Performing software instructor duties as necessary.

(11) Evaluating and approving qualified mentors.

(12) Evaluating potential certification courses.

e. Field Activities (FAs):

(1) Field/CAO Commanders will:

(a) Assure effective implementation of the SPDP in their CAO.
(b) Attend mandatory training: F/M32A, Software Surveillance Concepts for Commanders.

(2) Field/CAO higher level supervisors will:

(a) Attend mandatory training: F/M32B, Software Surveillance Concepts for Managers.
(b) Evaluate local compliance to the SPDP to assure that it is properly administered.
(c) Ensure on-site reviews are conducted to determine whether or not individual technical development needs have been identified and acted upon for software professionals.
(d) Ensure the training coordinator performs assigned SPDP tasks.

(3) Field/CAO Training Coordinators (TC) will:

(a) Review and submit properly completed SPDP applications through the DCMD appropriate channels to the SPDP Lead Agent.
(b) Review and process applicable SPDP forms.
(c) Track SPDP accomplishments and provide inputs to DCMC Performance Metrics.
(d) Maintain and distribute DBMS Training Application Reports every quarter as a minimum.
(e) Coordinate with DCMD SPDP Manager on scheduling/hosting training.
(f) Notify SPDP training applicants when they are accepted and scheduled for training in a timely manner.

(4) Field/CAO immediate supervisors will:

(a) Insure that the Individual Development Plan (IDP) for each applicant accepted into the SPDP is updated as follows:

(1) Identify training and career development needs of subordinate software professionals to provide for required knowledge, skills and abilities.
(2) Identify any additional training requirements which are over and above those prescribed in the Software Surveillance skill area.

(b) Utilize Level II or III certified software professionals to assist in identifying any specialized skills or additional training that subordinates need based on their assignments.
(c) Review and disposition applicable forms to the DCMD SPDP Manager through the field/CAO TC.
(d) Assure that software professionals are afforded sufficient hands-on experience and full participation in the mentorship program. Submit nomination of mentors to DCMD Staff Software Professional through the DCMD SPDP Manager for approval and assure that the mentors are appropriately assigned.
(e) Coordinate with each Software Professional to review and analyze DBMS Training Application Reports for accuracy on a quarterly basis.

(f) Assist subordinate personnel in the development of requests for equivalencies for SPDP courses and coordinate with Field/CAO TC.

(5) Mentors will:

(a) Develop a milestone plan, in coordination with the candidate, using the structured mentorship tasks in Appendix B of this document.

(b) Implement the Mentorship Milestone Plan by documenting the completion of tasks based upon defined objectives specified in the plan.

(c) Provide status of mentorship task completion to the candidate's immediate supervisor, cognizant TC, and DCMD SPDP Manager quarterly until all defined tasks have been satisfied.

(d) Communicate with other mentors to exchange ideas and methods pertaining to mentorship tasks.

(e) Seek out alternate opportunities to fulfill mentoring tasks at other CAOs which may not be available at the candidate’s duty station.

(6) SPDP Candidates will:

(a) Prepare, review, and submit applicable forms.

(b) Provide verifiable evidence of completion of training through their immediate supervisor.

(c) Review and discuss SPDP requirements and status with their immediate supervisor and assigned mentor.

(d) Prepare and submit, through the immediate supervisor, any requests for equivalency for training courses. Documentation in support of equivalencies must be verifiable and must accompany all requests.

(e) Identify any specialized technical needs required by currently assigned contracts and notify the immediate supervisor. Specialized technical development training requirements may be necessary or be available within the CAO.

(f) Insure that their Individual Development Plan (IDP) is updated as necessary.

SECTION II

REQUIREMENTS FOR LEVELS I/II CERTIFICATION AND AUTHORIZATION TO EXECUTE DD FORMS 250, MATERIAL INSPECTION AND RECEIVING REPORT

2-100 PURPOSE. To establish requirements for Levels I and II certification of software professionals. To identify the certification level required to execute DD Forms 250, Material Inspection and Receiving Reports, for the acceptance of Software Deliverables or Software Engineering Services.

2-101 GENERAL.

a. All DCMC software personnel and those providing support to DCMC personnel will pursue priority one (mission essential) training to become certified at the Software Surveillance skill level commensurate with their position responsibilities. While the goal of the software workforce is to achieve Level II certification, prioritization of Level II training is based upon the individual's immediate need for the training. Software professionals performing Level II activities will receive Level II training on a priority one basis. Those performing Level I activities will receive Level II training on a priority two (career development) basis.

b. The curriculum for the SPDP is found in Appendices A and B. Appendix A lists SPDP mandatory courses. Appendix B lists tasks and objectives for the mandatory mentor-guided work experience.

c. Certification in Software Surveillance skills, Level I will be completed no later than two years after enrolling in the SPDP. Software personnel for whom Level II has been identified as a requirement must attain Level II certification within two years after certification at Level I in order to maintain enrollment in the SPDP and achieve targeted Journey Level II Certification. Persons not satisfying the targeted Certification goal within the allotted time must present justification for remaining in the SPDP or be reclassified at a Priority two level for further training in this skill area. (NOTE: To provide a baseline for tracking these time requirements, the date of initial assignment to the software organization will be entered as the completion date in pseudo course number Q/WOO).

2-102 REQUIREMENTS FOR CERTIFICATION. Minimum requirements for certification in the software Surveillance skill Levels I and II are as follows. (Depending on contract assignment, additional requirements may be identified.)

a. Software Surveillance Skill Level I:

(1) Completion of all Level I courses.
(2) Completion of any specialized training deemed necessary by the immediate supervisor/ mentor/DCMD Staff Software Professional.
(3) Completion of mentor-guided work experience as outlined in Appendix B.*
(4) Acceptable performance appraisal.

b. Software Surveillance Skill Level II:

(1) Certification at Level I.
(2) Completion of all required Level II courses.
(3) Completion of mentor-guided work experience as outlined in Appendix B. *
(4) Current acceptable performance appraisal.
(5) Minimum of one year of DCMC software work experience after Level I Certification has been granted.

* NOTE: Time frames to complete objectives for work experience will vary.

2-103 AUTHORIZATION TO EXECUTE DD FORM 250. Signature authority to execute DD Form 250 for acceptance of deliverable software products, release of shipments or related services shall be vested only in software personnel who have been certified at SPDP Level II or III. Inspection approval stamps shall be procured and issued by Districts to these certified individuals in accordance with the DLAM 5000.4 "ONE" Book, Part VI, Chapter 3, "Authorizing/Accepting Shipments."

SECTION III

REQUIREMENTS FOR LEVEL II AND III CERTIFICATION MAINTENANCE

3-100 PURPOSE. To establish the requirements for Software Surveillance Skill Levels II and III certification maintenance.

3-101 GENERAL. Certification maintenance will assist the Levels II and III workforce in remaining current in software-related technologies, trends, and policies.

3-102 PROCEDURES. Personnel certified in Software Surveillance Skill Levels II and III must satisfy certification maintenance criteria every three years to maintain certification. Appendix C, Course #F/WRCT, contains the criteria for certification maintenance. Failure to satisfy the criteria will result in the expiration of Level II or III certifications and may result in reverting to the next lower level of the SPDP certification process. This training guide provides two options for personnel to maintain their Level II/III certification as follows:

a. Option 1: The "F/WRCT - Certification Maintenance" course will be made available during the annual DCMC Software Symposium, or may be offered during the year on a limited basis. Level II personnel who successfully complete this course, will be recertified at SPDP Level II. Level III personnel may use this course for partial fulfillment of maintenance requirements. New certificates, valid for a three year period, will be issued upon completion. (See 3-102f below.)

b. Option 2: SPDP Level II or III certified personnel may use the "Certification Maintenance" application process as detailed in Appendix I. This option allows recognition for independent efforts of an individual to remain current with state-of-technology by taking additional courses, attending symposiums or conferences, etc., thus eliminating the need to attend the F/WRCT course. (See 3-102f below.)

(1) The SPDP Council will evaluate submissions of verifiable documentation from Level III Software Professionals who use this option.

(2) DCMDs will evaluate submissions of verifiable documentation from Level II Software Professionals who use this option.

(3) Upon successful fulfillment of appropriate certification maintenance criteria, the candidate will be issued a new SPDP certificate by the SPDP Council (for Level III applicants) or by the DCMD (for Level II applicants) valid for a three year period.

c. Level II and III personnel who choose option 1 for certification maintenance must assure that the F/WRCT course is identified in the DBMS and in the IDP as a training requirement no later than one year prior to the expiration date of their respective Level II/III certificate.

d. Level II and III personnel who choose option 2 for certification maintenance must assure that the code "F/OPT2" is identified in the DBMS and in the IDP as a training requirement no later than one year prior to the expiration date of their respective Level II/III certificate.

e. Level II and III personnel who do not comply with 3-102c are presumed to be using option 2 for certification maintenance. Thus, the F/WRCT course will not be planned for and will not be offered to individuals who are presumed to be using option 2.

f. Regardless of the option used for certification maintenance, SPDP Level III certified software professionals must also perform SC directed Level III tasks as specified in Section IV, 4-102a(5) or 4-102b(5) in order to maintain their certification.

SECTION IV

SOFTWARE SURVEILLANCE LEVEL III CERTIFICATION

4-100 PURPOSE. Establish the requirements for certification of software professionals at Level III.

4-101 GENERAL. Level III certification allows DCMC to develop and recognize technical personnel throughout the Command that have advanced specialized or unique software development skill(s) associated with the software engineering development discipline concepts in the areas of quality assurance, configuration management, project management, planning/estimating, and process analysis.

4-102 PROCEDURES. DCMC personnel pursuing SPDP Level III certification, must apply using the application forms in Appendix E and complying with the context of this section. The process is:

a. Request for Enrollment in the SPDP Level III Skill Development Program:

(1) Individual will apply for enrollment in the SPDP Level III Skill Development Program using Appendix E Forms E-6, E-7, E-8 and E-10 (and Form E-11, when necessary). Candidate will prepare a detailed SPDP Level III Development Plan (L3DP) that will identify goals and objectives and establish necessary milestones to obtain the skills identified. The Development Plan will be submitted as part of the Level III application package to the cognizant DCMD SPDP Manager and Staff Software Professional to ensure that application package meets all of the Level III specified prerequisites.

(2) If the application package does not meet the application criteria, the package will be returned through the appropriate channels.

(3) If the application package is approved, the individual pursues the Level III Development Program (L3DP). Upon completion of the L3DP, a SPDP Level III certificate will be issued through the appropriate channels.

(4) dedicate the time necessary to execute their L3DP initiatives.

b. Request for Level III Certification:

(1) Individual will prepare and submit a request for Level III Certification using Appendix E forms E-6, E-7, E-9, and E-10 (and Form E-11, when necessary) to the cognizant DCMD SPDP Manager and Staff Software Professional for prescreening.

(2) Upon successful prescreening of the certification package, the cognizant DCMD shall forward the application to the DCMC Software Council for application approval and certification of individual.

(3) If the certification package does not meet the Level III certification criteria, the package will be returned through the appropriate channels.

(4) If the certification package is approved, a SPDP Level III Certificate will be issued through the appropriate channels.

(5) CAO commander's signature on SPDP Form E-9 signifies consent to allow applicant to dedicate up to 51% of their time executing Command initiatives tasked to the DCMC Software Center.

NOTE: This does not mean that they will spend 51% of their time concurrently performing Software Center Activities, only that the potential exists for long and short term assignments.

4-103 PREREQUISITES. DCMC personnel desiring SPDP Level III certification must meet all of the following prerequisites:

a. SPDP Level II certification.

b. Seven or more years of software development related experience, with the following allowances/limitations:

(1) May be a combination of Industrial or Government software related work experience, and/or Education totaling seven years or more. A maximum of two years of software development related education may be applied towards meeting this requirement. The applicant must demonstrate the relationship between their software development related education and their work experience in order to receive credit.

NOTE: Excludes: DCMC Functional Level Mandatory courses that are required for commodity type certification such as S32, S39, SDF, SSF, SSA, SSE, etc. and all Office Automation courses such as word processing, spreadsheet, database entry and reporting, etc.

(2) At least two or more years of DoD software CAS experience.

c. One or more recognizable skill(s) area of expertise.

d. DAWIA certification at the level required by the individual's grade and job series.

e. Completion of the SPDP Level III application forms provided in Appendix E.

4-104 ADDITIONAL SPECIALIZED OR UNIQUE SKILLS.

a. The examples of specialized or unique skills depicted in figure 1 & 2 are not all inclusive. The list serves as a starting point for identifying and classifying Level III resources. Software development technology is continuously changing, so additional specialized or unique skills may be revealed through the evolving technological environment, or requirement(s) identification. The applicant must identify how the unique skill will be acquired and utilized. This skill must represent an extension of Level II capability and demonstrate direct support of the DCMC software surveillance mission.

b. The identification of a "New Skill" or "New Domain" Form in Appendix E, page E-14, shall be completed and submitted through the DCMC Lead Agent to the SC SPDP Manager by any DCMC employee to request a new specialized or unique skill that he/she has acquired, be reviewed for inclusion on the Level III list. If approved, the specialized or unique skill(s) will be assigned a unique code, added to the list and the DCMC community will be notified.

EXAMPLES LEVEL III SPECIALIZED OR UNIQUE SKILL AREAS

SPDP Level III Skill Code	Skill Title/Description
CASE	CASE TOOLS & DEVELOPMENTAL ENVIRONMENT
HOL	HIGH ORDER LANGUAGE
ISO	ISO (INTERNATIONAL ORGANIZATION FOR STANDARDIZATION)
MET	METRICS/PERFORMANCE MEASUREMENT/MANAGEMENT INDICATORS
OOP	OBJECT ORIENTED PROGRAMMING (OOP)
REL	SOFTWARE RELIABILITY
RISK	SOFTWARE RISK ASSESSMENT/MITIGATION
SCE	SOFTWARE CAPABILITY EVALUATION (SCE)
SE	SOFTWARE/SYSTEMS ENGINEERING/INTEGRATION
SS	SOFTWARE SECURITY/SAFETY
SSE	SOURCE SELECTION EVALUATION
TNG	COURSE DEVELOPMENT/INSTRUCTION
SCM	SOFTWARE CONFIGURATION MANAGEMENT
SQA	SOFTWARE QUALITY ASSURANCE
IV&V	INDEPENDENT VERIFICATION & VALIDATION
ST	SOFTWARE TESTING
NS	CONTRACTING/NEGOTIATIONS/PROPOSAL DEVELOPMENT

FIGURE 1

Below are examples of application domain areas that DCMC is pursuing. This list is not designed to be comprehensive of all application domain areas or specific requirements. Personnel pursuing Level III certification are encouraged to submit a unique skill to develop.

EXAMPLE LEVEL III DOMAIN AREAS

Domain Code	Application Domain/Sector
WS	**WEAPON SYSTEMS SOFTWARE**
WS-101	--Embedded Software
WS-102	--Command, Control and Communications Software
WS-103	--Intelligence Software
WS-104	--Any other software that is part of (or supports) a weapon system or its mission
NWS	**NON-WEAPON SYSTEMS SOFTWARE - MANAGEMENT INFORMATION SYSTEM (MIS)**
NWS-101	--Information System Resources (ISR) Software
NWS-102	--Automated Information System (AIS) Software
NWS-103	--Information Resource Management (IRM) Software
NWS-104	--All other non-weapon systems software

FIGURE 2

SECTION V

TRAINING FOR MANAGERS AND COMMANDERS

5-100 PURPOSE. To identify mandatory training for Commanders, team leaders, supervisors, and managers of software professionals.

5-101 GENERAL. Commanders and managers of software professionals will benefit from a course developed to provide them with an overview of the software acquisition process and associated surveillance mission.

5-102 REQUIREMENTS. Software Surveillance Concepts for Commanders, F/M32A, is mandatory for Commanders. Software Surveillance Concepts for Managers, F/M32B, is mandatory for all team leaders, supervisors, and managers of software professionals every three years to maintain currency in DCMC software policies and activities. It is also recommended that other managers attend this training for information purposes in the event they are tasked to oversee software surveillance professionals.

SECTION VI

ADMINISTRATION OF MENTOR-GUIDED WORK EXPERIENCE

6-100 PURPOSE. Provide guidelines for the implementation and administration of Levels I and II required mentor-guided work experience to include SSF, SSA and SSE Structured Mentorship Tasks.

6-101 GENERAL. The Mentorship Program is to provide peer support to the software professional pursuing certification at Levels I and II. The mentor's duties are nonsupervisory. Mentorship enhances the candidate's ability to rapidly gain work experience and a full understanding of surveillance responsibilities. Objectives at the full performance level are provided for each subject area the candidate must master. Time frames to complete each objective will vary among individuals. The four-month period cited for each of the three mentor-guided work experiences is only a guideline. The candidate must complete the structured mentorship tasks (or demonstrate equivalency) to achieve certification. Familiarization of the mentorship tasks will provide the software professional exposure to the elements of software development, thus enhancing understanding of material presented in the SSF, SSA, and SSE courses.

6-102 PROCEDURES

a. The CAO Software Professional shall submit a recommended mentor to the DCMD SPDP Manager and Staff Software Professional for concurrence. Mentors must be certified at SPDP Level II or III. If the candidate's CAO does not have a qualified individual to serve as mentor, DCMD SPDP Manager and DCMD Staff Software Professional will designate one from a neighboring CAO or the District.

b. The immediate supervisor will assure that the Application for Enrollment in the SPDP (see Appendix E) is completed by the candidate and submitted to the DCMD SPDP Manager. The District will select and notify the mentor.

c. The candidate and mentor may tailor and use the listing of Tasks and Objectives for Mentor-Guided Work Experience (see Appendix B) to:

(1) Develop a milestone plan for the accomplishments of the tasks and objectives. The plan will assist in ensuring the candidate is properly exposed to the software surveillance responsibilities found in the structured mentorship tasks.
(2) Document completion of tasks and objectives as they are met. If desired, the mentor and candidate may provide comments on the signature page. Upon completion of all tasks, the local TC will assure the completion is entered into the DBMS, and the mentor will distribute the listing and signature page to the DCMD SPDP Manager, the candidate, and immediate supervisor.

d. It is incumbent upon the mentor to encourage the candidate's successful completion of the Mentorship Program. This is facilitated by providing the following:

(1) Guidance to the candidate prior to and during the accomplishment of each objective.

(2) Assuring that the candidate has mastered each objective.

(3) Involving the candidate in the mentor's normal work activities when objectives can be met in this manner.

SECTION VII

EQUIVALENT TRAINING/EXPERIENCE

7-100 PURPOSE. Provide guidelines to be followed by the DCMD SPDP Manager and Staff Software Professional to disposition requests for equivalencies based on prior training or experience.

7-101 GENERAL. Equivalency Requests are submitted the DCMD SPDP Manager and evaluated by the DCMD Staff Software Professional for evaluating the related training and experience. The evaluation will be objective and based on a comparison of the individual's data with the course content for which the request is made. The Equivalency Form, E-13, in Appendix E, shall be used for all SPDP training/experience equivalency requests. Specific information regarding equivalency, use the course descriptions listed in Appendix C. Administration of equivalency exams is the responsibility of the DCMD SPDP Manager. Each equivalency will stand on its own merit on a case-by-case basis. Individuals may receive equivalency credit by one of the following methods:

a. Successful completion of an equivalent course determined by using the following criteria:

(1) Length of course.
(2) Course content.
(3) Currency of subject matter.
(4) Scope and range of subject.

b. Successful completion of the final course examination, under controlled conditions, when used as an equivalency test.

c. Experience in the skill area directly related to the material covered in the prescribed SPDP course which can be determined by using the following criteria:

(1) The requester has demonstrated proficiency in the skill area related to the prescribed course, which has been verified by the supervisor with the assistance of a DCMD Staff Software Professional.
(2) A determination of whether significant knowledge would be gained or technical expertise enhanced by attending prescribed course.

NOTE: An equivalency may **not** be granted for the Software Surveillance Applications and Software Surveillance Evaluations courses.

7-102 PROCEDURES

a. Requests for equivalency and/or credit for training/experience will be prepared by the affected employee and submitted through the immediate supervisor and Training Coordinator to the DCMD SPDP Manager and Staff Software Professional for disposition. The signature of the immediate supervisor serves as validation that, to the supervisor's best knowledge, the applicant has performed/is performing the work listed as equivalent experience or has attended the training (e.g., "... written programs for CAO in C++..." or "... performing surveillance/PROCAS on major programs using

b. Employees will be notified of all actions concerning equivalency requests within 30 days of receipt of the request by DCMD SPDP Manager. If approved, the DCMD Workforce Development Directorate will update DBMS with the results. The request, along with supporting documentation, will be returned to the employee's Training Coordinator. In those cases of disapproval, the employee's Training Coordinator will notify the employee of the reasons why the request was disapproved. The Training Coordinator can schedule the employee for training, have the request resubmitted with additional information, or request an equivalency test be administered, as the situation warrants.

APPENDIX - A

MANDATORY AND SPECIALIZED SPDP CURRICULUM

Course No.	Title	Duration
Level I:		
Q/E12	Digital Principles & Applications	2 Weeks
Q/S38	Microprocessor Fundamentals	2 Weeks
F/X0A	Introduction to Structured Programming	2 Weeks
F/SSWORK1	Mentor-Guided Work Experience*	4 Months Associated with SSF
F/SSF	Software Surveillance Fundamentals	9 Days
Level II:		
F/SXX	Systems Analysis & Design	7 Days
F/ADA	Ada Programming**	2 Weeks**
F/SSWORK2	Mentor-Guided Work Experience*	4 Months Associated with SSA
F/SSA	Software Surveillance Applications	9 Days
F/SSWORK3	Mentor-Guided Work Experience*	4 Months Associated with SSE
F/SSE	Software Surveillance Evaluations	1 Week
F/CMM	Capability Maturity Model	1 Week
Level III:		
F/WRCT	Software Surveillance Certification Maint.	***3 Days, Required every 3 years
F/OPT2	Certification Maintenance Journal App.	***Required every 3 years

*Familiarization with the Mentor-Guided Work Experience prior to the associated course is required. Time frames to complete objectives for work experience will vary; 4 months is a guideline.
**See F/Ada course description. There are three methods prescribed with varying durations.
******* See Section III, 3-102 a - f for explanation of certification maintenance Option(s) 1 and 2.

FIGURE 3

Level III: The Level III curriculum, customized to the individual's talents or needs, consists of advanced, specialized training or assignments. Level III also allows for the recognition of an individual's highly specialized skills. See Section IV for details on application, acceptance, and commitment at this level. Personnel pursuing Level III certification should submit a request to develop unique skill area(s).

APPENDIX - B

TASKS AND OBJECTIVES FOR MENTOR-GUIDED WORK EXPERIENCE ASSOCIATED WITH SOFTWARE SURVEILLANCE

SOFTWARE SURVEILLANCE FUNDAMENTALS (SSF)
STRUCTURED MENTORSHIP TASKS
Course Number: F/SSF

SSF MENTORSHIP

_____	_____
CANDIDATE	MENTOR
_____	_____
OFFICE SYMBOL/SERIES	OFFICE SYMBOL/SERIES
_____	_____
PHONE NUMBER	PHONE NUMBER
_____	_____
START DATE	COMPLETION DATE
_____	_____
SIGNATURE	SIGNATURE

SSF MENTORSHIP TASKS

_____ TASK 1: Introduction to DOD policy, regulations, and guidance.

OBJECTIVE: The candidate will:

_____ Understand the difference between Policy, Regulations, and Guidance.

_____ Be familiar with DoD/DLA Policy; NASA and other federal agency regulations; and policy and regulations related to software development.

_____ TASK 2A: Overview of the Onebook, in relation to Software Surveillance Policy. (Ref: Module 3)

OBJECTIVE: The candidate will:

_____ Understand the role of the "ONE" Book as a policy document, and the Book's policy related to software.

_____ Relate the "ONE" Book to on-the-job experiences. Interpret the policy to apply to particular situations.

_____ TASK 2B: Overview of the DCMC Software Surveillance Handbook.

OBJECTIVE: The candidate will:

_____ Identify the chapters of the Handbook that relate to a particular situation, and use it as a tool.

_____ Be familiar with the role of the Handbook as a guide and realize that it is a living document that is always being improved.

_____ TASK 3: Insight to the contract acquisition management process. (Ref: Module 4)

OBJECTIVE: The candidate will:

_____ Identify the interrelationship between the contractor and program office.

_____ Understand Preaward Surveys and Post Award Conferences.

_____ Identify the phases of the contracting process.

SSF MENTORSHIP TASKS
(Continued)

_____ TASK 4: Identification of specifications and standards in the contract and understanding of the concept of tailoring.

OBJECTIVE: The candidate will:

_____ Understand and use the specifications and standards used in software.

_____ Identify specifications and standards in the contract.

_____ Understand the concept of tailoring to include the actual tailoring of standards as prescribed in the related standards or guidelines.

_____ TASK 5: Software Development Life Cycle and phase dependent activities.

OBJECTIVE: The candidate will:

_____ Identify each of the life cycle phases and understand why they exist.

_____ Understand what happens in each phase of the life cycle and identify processes which take place in each phase.

_____ TASK 6: Introduction to software documentation and important documents in software development.

OBJECTIVE: The candidate will:

_____ Read and comprehend a Contract Data Requirements List (CDRL) DD1423 Form.

_____ Understand important documents that are a part of most software development efforts, such as the Software Quality Program Plan (SQPP), Software Design Document (SDD), Software Development Plan (SDP), etc.

_____ Understand the role of Data Item Descriptions (DIDs), in software inspection and how to evaluate the documentation.

SSF MENTORSHIP TASKS
(Continued)

_____ TASK 7: Introduction of Configuration Management

OBJECTIVE: The candidate will:

_____ Understand the specifications required for configuration management.

_____ Understand why configuration management is a major process in software development, with many subordinate processes.

_____ Understand how to begin to proof a major process.

_____ TASK 8: Overview of the Software Quality Evaluation (SQE) process.

OBJECTIVE: The candidate will develop an understanding of the contractor's internal audit systems.

_____ TASK 9: Entry level understanding of software engineering, system engineering, metrics, management indicators, and CASE Tools.

OBJECTIVE: The candidate will:

_____ Understand the relationship between software design/engineering and systems engineering.

_____ Gain an understanding of the interface requirements for software efforts.

_____ Understand the terminology and principles of software engineering.

_____ Collect data associated with software processes.

_____ Analyze data collected to identify management indicators.

_____ Have an entry level understanding of CASE tools and applications.

_____ Relate to software engineering practices used by the contractor.

SSF MENTORSHIP TASKS
(Continued)

_____ TASK 10: Knowledge of the requirements for collecting, maintaining, and reporting cost and schedule data.

OBJECTIVE: The candidate will:

_____ Identify the architectural structure of a system in terms of configuration items.

_____ Understand how configuration items are controlled via the work breakdown structure and further defined in work packages associated with tasks.

_____ Understand the "Earned Value" concept.

_____ TASK 11: Basic understanding of the contract negotiation process.

OBJECTIVE: The candidate will:

_____ Understand the basic process of Request for Proposal coordination.

_____ Understand the use of the Software Capability Evaluation process in the RFP stage.

_____ Understand evaluations associated with TSNs.

_____ Understand the coordination of documents associated with the selection process.

_____ TASK 12A: Introduction to Contract Review.

OBJECTIVE: The candidate will:

_____ Understand applicable Federal Acquisition Regulation (FAR) clauses.

_____ Understand the methods for delegating CAS to other DLA components.

_____ Understand how to navigate through a contract. Find contract requirements, the Statement of Work, and Inspection and Acceptance requirements, etc.

SSF M E N T O R S H I P T A S K S
(Continued)

_____ TASK 12B: Understanding of Software Quality Assurance.

OBJECTIVE: The candidate will:

_____ Identify Software Quality Assurance requirements in the contract.

_____ Identify the applicable FAR clauses that relate to those requirements.

_____ Review the Software Quality Plan (SQP).

_____ TASK 12C: Understanding and identification of technical data which is legally protected for either the government or the contractor.

OBJECTIVE: The candidate will:

_____ Identify and understand the government's and contractor's rights with regard to technical data, protected by or eligible for copyrights or patents, which has been or is being developed as a result of a contract or contractor's commercial business.

_____ Identify and understand the government's or contractor's rights, and the associated ramifications to the acquisition process, with regard to contractor identified proprietary software/firmware, and related data/documents.

_____ Document in reports to the CAO team and/or the PMO those Technical Data elements (copyright, patent or proprietary) posing a risk to the acquisition of contracted software, firmware, or systems.

_____ TASK 13: Identification of Software Development Processes, overview of the SCE, and CMM.

OBJECTIVE: The candidate will:

_____ Identify common software processes, such as configuration management and its subordinate processes, such as change control.

_____ Explain what a software process is and explain what proofing a process means, within the confines of PROCAS.

SSF MENTORSHIP TASKS
(Continued)

_____ Understand the role of the SCE and how it is used as a contract monitoring tool or in a Preaward Survey.

_____ TASK 14: Understanding of software surveillance and duties to be performed to conduct basic CAS surveillance.

OBJECTIVE: The candidate will:

_____ Identify delivery requirements as specified in the contract.

_____ Develop a schedule and milestone plan, for candidate use, to document surveillance points of contractor activities leading to delivery of contractual requirements.

_____ Document contractor's performance on delivery to the CAO Team and the PMO.

_____ TASK 15: Understanding the difference between and implications of software developed as a contractual requirement and that which is readily available, either commercially or contractor developed (in-house tools).

OBJECTIVE: The candidate will:

_____ Identify COTS (software/firmware).

_____ Assure that the CAO team and the PMO are aware of the usage of COTS (software/firmware).

_____ Document the contractor's intentions on government rights to access and/or use of COTS on future procurement/acquisition.

_____ TASK 16: Tool use (SPECS).

OBJECTIVE: The candidate will be exposed to tools usage in day-to-day software surveillance functions.

APPENDIX - B

TASKS AND OBJECTIVES FOR MENTOR-GUIDED WORK EXPERIENCE ASSOCIATED WITH SOFTWARE SURVEILLANCE

SOFTWARE SURVEILLANCE APPLICATIONS (SSA)
STRUCTURED MENTORSHIP TASKS
Course Number: F/SSA

SSA MENTORSHIP

_____	_____
CANDIDATE	MENTOR
_____	_____
OFFICE SYMBOL/SERIES	OFFICE SYMBOL/SERIES
_____	_____
PHONE NUMBER	PHONE NUMBER
_____	_____
START DATE	COMPLETION DATE
_____	_____
SIGNATURE	SIGNATURE

SSA MENTORSHIP TASKS

_____ TASK 1: System/Software Engineering.

OBJECTIVE: The candidate will participate in or discuss with the mentor the following:

_____ System Engineering Working Groups

_____ (ICWG)

_____ (CRWG)

_____ (SEPG)

_____ Integrated Process Teams (IPTs)

_____ TASK 2: Software Documentation.

OBJECTIVE: The candidate will select a deliverable document, compare it to the applicable DID, and review it for format and technical adequacy/compliance.

_____ TASK 3: Software Configuration Management (SCM).

OBJECTIVE: The candidate will Participate in an SCM audit.

_____ TASK 4: Software Quality Evaluations (SQE).

OBJECTIVE: The candidate will review the contractor's software quality procedures and perform a process audit.

_____ TASK 5: Cost/Schedule.

OBJECTIVE: The candidate will attend a program review and/or will review the Contractor's Cost & Schedule Data (e.g. CPR, C/SCSC).

_____ Task 6: Metrics (measurement indicators).

OBJECTIVE: The candidate will analyze and validate the contractor's software metrics.

SSA MENTORSHIP TASKS
(Continued)

_____ TASK 7: TSN and proposal evaluation methodologies.

OBJECTIVE: The candidate will review, with the mentor, a contractor's software cost analysis and assist in the generation of a TSN.

_____ TASK 8: Firmware and nondevelopmental software/COTS.

OBJECTIVE: The candidate will review, with the mentor, a contractor's procedures for handling firmware and nondevelopmental software.

_____ TASK 9: Risk management.

OBJECTIVE: The candidate will review, with the mentor, a contractor's risk management plan.

_____ TASK 10: Software surveillance applications.

OBJECTIVE: The candidate will review, with the mentor, their software surveillance plan.

APPENDIX - B

TASKS AND OBJECTIVES FOR MENTOR-GUIDED WORK EXPERIENCE ASSOCIATED WITH SOFTWARE SURVEILLANCE

SOFTWARE SURVEILLANCE EVALUATIONS (SSE)
STRUCTURED MENTORSHIP TASKS
Course Number: F/SSE

SSE MENTORSHIP

_____	_____
CANDIDATE	MENTOR
_____	_____
OFFICE SYMBOL/SERIES	OFFICE SYMBOL/SERIES
_____	_____
PHONE NUMBER	PHONE NUMBER
_____	_____
START DATE	COMPLETION DATE
_____	_____
SIGNATURE	SIGNATURE

SSE MENTORSHIP TASKS

_____ TASK 1: Parametric Analysis

OBJECTIVE: The candidate will participate in the use of the Parametric Analysis tool (i.e. REVIC) on software contracts, with emphasis on the following areas.

a. Budgeted vs Actual
- ____ Phase & End Review
- ____ Requirements Engineering
- ____ Preliminary Design
- ____ Critical Design
- ____ Code & Debug
- ____ Integrated & Test
- ____ Development Test & Integration - Activity
- ____ Requirements Analysis
- ____ Product Design
- ____ Programming
- ____ Test Planning
- ____ Verify & Validate
- ____ Project Office
- ____ Configuration Management/Quality Assurance
- ____ Manuals

b. Sigma Values
- ____ KDSI
- ____ MM
- ____ Schedule
- ____ Trend Analysis

c. CDRL Estimates

_____ TASK 2: Cost & Schedule

OBJECTIVE: The candidate will participate in the processes listed below, collect data, interpret results, recognize trends, predict positive/negative results, and be involved with making recommendations to the program office.

a. CS^2, CPR, C/SSR evaluation (cost analysis)
b. Cost schedule metrics (i.e. budgeted vs actual)
c. Parametric analysis (i.e. REVIC)
d. Risk analysis (based on cost/schedule constraints)

SSE M E N T O R S H I P T A S K S
(continued)

_____ TASK 3: Software Quality Evaluation

OBJECTIVE: The candidate will participate in the evaluation of the Software Quality Program Plan (SQPP) for compliance to the contract Statement of Work (SOW), Contractor Data Requirements List (CDRLs), and the contractor's internal procedures. In addition, the candidate, with mentor guidance, will analyze the contractor's quality evaluations and ensure the contractor takes appropriate action. The processes listed below are minimum requirements for candidate participation.

a. Contractor's Corrective Action System
b. Internal Audit
c. SQPP
d. Contractor's procedures/checklist (Note: differences between good and bad checklists)

_____ TASK 4: Metrics (Measurement Indicators)

OBJECTIVE: The candidate will gain a working knowledge of the following metrics by collecting data, establishing measurement points, generating metric results, and using the results to make informed decisions.

____ Product Progress
____ S/W Documentation
____ Defects/Fault Causal Analysis
____ Problem/Error Reporting
____ SLOC
____ Memory Size
____ Baseline Stability
____ Defect/Fault
____ Staffing Adequacy
____ Test Progress
____ SQA Evaluations
____ Complexity
____ Technical Progress
____ Configuration Management Effectiveness

SSE M E N T O R S H I P T A S K S
(continued)

_____ TASK 5 : Risk Management

OBJECTIVE: The candidate will assist in identifying risks, using data from metrics, documentation, testing, requirements, actions by the contractor, and other sources. The candidate will be involved in the process of assessing, prioritizing, and making recommendations during the software life cycle.

a. Integration of Tasks 1 - 4 as contributing elements of Risk

APPENDIX - C

COURSE DESCRIPTIONS

COURSE #: D/AMEC-253

TITLE: ADA PROGRAMMING - BASIC COURSE

SOURCE: U.S. Army Management Engineering College
Rock Island, IL 61299-7040

LOCATION: Same as source.

LENGTH: 5 Days.

OBJECTIVE: To provide basic concepts and knowledge necessary to read, design, and test Ada source code.

DESCRIPTION: This course is a comprehensive presentation of most of the features of the Ada language. Topics include: using the Ada Language Reference Manual, syntax notation, lexical elements of the language, data object declarations, data type definitions, attributes, predefined operators, expressions, sequential control statements, functions, procedures, the predefined language environment, standard input/output facilities, and an introduction to the concept of packages and modular design.

PREREQUISITES: Successful completion of SPDP Level I Certification Requirements.

EQUIVALENCY: An equivalency may be granted in accordance with Section VII of SPDP.

COURSE #: F/ADA

TITLE: ADA PROGRAMMING

SOURCE: AMEC/DCMDs/College/Computer-Based Training (CBT)/DCMC LA

LOCATION: Determined by source.

LENGTH: Various (depending on method selected)

OBJECTIVE: To provide knowledge of Ada-specific programming. (F/ADA is a pseudocourse to show completion of Level II certification requirements for Ada programming.) The approach for this training is tailorable, since the participant may elect one of the options described below in METHODS to obtain this training.

METHODS: The student will select one of the following options to complete the requirement for Ada Programming.

1. D/AMEC - 253 Ada Programming Basic Course

-or-

2. Q/X34 Ada Language (Colleges, etc.)

-or-

3. F/ADA-CBT Ada Applied Programming Through Computer Based Training

4. Equivalency as defined below.

DESCRIPTION: See the course Descriptions for the courses listed above in this Appendix.

PREREQUISITES: Successful completion of SPDP Level I certification requirements.

EQUIVALENCY: An equivalency may be granted in accordance with Section VII of SPDP. Personnel may opt to substitute a different language to fullfill the high-order language requirement for Level II. However, choice of language is constrained to those in use on contracts for which the candidate is providing direct software surveillance support.

COURSE #: F/ADA-CBT

TITLE: ADA APPLIED PROGRAMMING COMPUTER-BASED TRAINING

SOURCE: Keesler AFB Technical Training Group Disks available from each DCMD SPDP Manager or DCMCs.

LOCATION: Same as source.

LENGTH: Approximately 26 Hours.

OBJECTIVE: The student will understand more advanced concepts needed to program using the Ada Language.

DESCRIPTION: The training provides knowledge and skills needed to use the more advanced features of Ada and to apply good programming principles to reach software engineering goals. Training includes: advanced data types, advanced usage of program units, generic program units, advanced input and output, exception handlers uses, compilation issues, and availability and use of APSE tools.

PREREQUISITE: Successful completion of SPDP Level I certification requirements. Programming experience required.

EQUIVALENCY: Equivalency may be granted in accordance with Section VII of the SPDP.

COURSE #: F/CMM

TITLE: CAPABILITY MATURITY MODEL

SOURCE: Software Engineering Institute (SEI) DCMC-AQOF/DCPSO/DCMDs

LOCATION: Determined by source.

LENGTH: 2 Days.

OBJECTIVE: To provide software surveillance personnel with knowledge of the SEI's CMM and how it is used by industry and government agencies as a tool to improve software development processes.

DESCRIPTION: This course will describe the CMM goals and practices. It will include SCE, SDCCR and SDCE evaluation methodologies. This course will include suggestions on how to use the CMM to evaluate processes in a contract monitoring mode on a day-to-day basis and in an award/incentive fee mode. The course will stress the importance of the software process improvement plan and its role as a primary surveillance tool for DCMC personnel in our PROCAS environment. The course will also include a description of Software Process Assessment (SPA), as used by developers to identify strengths and weaknesses in their software development processes/environment.

PREREQUISITES: Successful completion of F/SSA, Software Surveillance Applications.

EQUIVALENCY: An equivalency may be granted in accordance with Section VII of the SPDP.

NOTE: After receiving this training, a software professional must perform at least two assessments as a team member before performing an assessment as a team leader.

COURSE #: F/ISO 001

TITLE: INTRODUCTION TO ISO 9000/ANSI/ASQC Q90 QUALITY SERIES STANDARDS

SOURCE: Defense Logistics Agency/Defense Contract Management Command
AQOJ/Workforce Development
Ft Belvoir VA 22060
(703) 767-2353/DSN 427-2353
FAX (703) 767-2460/DSN 767-2460

LOCATION: On-site as determined by DLA activity.

LENGTH: 16 Hours.

OBJECTIVE: Upon completion of this training, DLA employees will have a basic understanding of ISO 9000/ANSI/ASQC Q90 Quality Series Standards and the application of standards within DLA procurement and contract administration.

DESCRIPTION: This course provides DLA personnel with an understanding of specific topics including: terminology, intent, interrelationships between the ISO 9000/ANSI/ASQC Q90 Quality Series Standards, DoD use of Commercial Quality System Standards, and the impact of using the ISO 9000/ANSI/ASQC Q90 Series Standards within the Defense Logistics Agency.

PREREQUISITE: Attendees should be familiar with DoD unique quality assurance requirements and each individual should read the ISO 9000/ANSI/ASQC Q91-93 Quality Series Standards prior to attending this training session.

EQUIVALENCY: Equivalency may be granted in accordance with Section VII of the SPDP.

COURSE #: F/ISO 9000-3

TITLE: INTRODUCTION TO ISO 9000-3 GUIDELINES FOR SOFTWARE QUALITY.

SOURCE: Defense Logistics Agency/Defense Contract Management Command
AQOJ/Workforce Development
Ft Belvoir VA 22060
(703) 767-2353/DSN 427-2353
FAX (703) 767-2460/DSN 767-2460

LOCATION: On-site as determined by DLA activity.

LENGTH: 8 Hours.

OBJECTIVE: Upon completion of this training, DLA employees will have a basic understanding of ISO 9000-3 Guidelines for Software Quality.

DESCRIPTION: This course provides DLA personnel with an overview/understanding of ISO 9000-3 Guidelines for Software Quality, general requirements for a certified software quality program, and the comparison of software standards in software quality assurance.

PREREQUISITE: Attendees should be familiar with DoD unique quality assurance requirements and each individual should read ISO 9000-3. Attendees must complete the F/ISO 001 (Introduction to ISO 9000/ANSI/ASQC Q90 Quality Series Standards) course.

EQUIVALENCY: Equivalency may be granted in accordance with Section VII of the SPDP.

COURSE #: F/M32A

TITLE: SOFTWARE SURVEILLANCE CONCEPTS FOR COMMANDERS

SOURCE: AQOF

LOCATION: On-site as determined by DCMDs.

LENGTH: 4 Hours.

OBJECTIVE: To provide an introductory level of understanding of the software surveillance tasks performed by software professionals.

DESCRIPTION: This seminar offers Commanders an introductory overview of the software acquisition process and associated surveillance mission. Specific topics discussed will include resource identification, staffing, training, contract reporting, surveillance implementation, DOD perspectives, specialized activities, and internal controls.

PREREQUISITES: None.

EQUIVALENCY: None.

COURSE #: F/M32B

TITLE: SOFTWARE SURVEILLANCE CONCEPTS FOR MANAGERS

SOURCE: AQOF

LOCATION: On-site as determined by DCMDs.

LENGTH: 16 Hours.

OBJECTIVE: To provide an overview of the software surveillance tasks performed by software professionals.

DESCRIPTION: This formal course offers team leaders, supervisors, and managers an introductory overview of the software acquisition process and associated surveillance mission. Specific topics discussed include resource identification, staffing, training, contract reporting, surveillance implementation, DOD perspectives, specialized activities, and internal controls. All topics discussed in this course are structured to provide management personnel the necessary knowledge to better evaluate the effectiveness of their software professional workforce.

PREREQUISITES: None.

EQUIVALENCY: None.

COURSE #: F/SSA

TITLE: SOFTWARE SURVEILLANCE APPLICATIONS

SOURCE: AQOF

LOCATION: Determined by source.

LENGTH: 10 Days.

OBJECTIVE: Intermediate level students will learn software surveillance strategies and techniques necessary to perform the routine activities of Contract Administration Services (CAS) of software development. This class provides detailed instruction of responsibilities and prepares the student for the Software Surveillance Evaluations (SSE) course where the student will demonstrate application of skills in hands-on workshops.

DESCRIPTION: This course, a follow-on to the Software Surveillance Fundamentals course, covers application strategies through presentations and workshops. It includes topics in System/Software Engineering, Software Quality Evaluations, Software Configuration Management, Risk Management, Cost/Schedule, Metrics (Measurement Indicators), Technical Support to Negotiations, Software Documentation, Non-Developmental Software/COTS, and Firmware. Workshops, consisting of Design and Requirement Traceability and Software Surveillance Planning, will enable the student to develop a strategy and implement a surveillance plan.

PREREQUISITES: Successful completion of SPDP Level I Certification Requirements and familiarization with the Level II SSA Structured Mentorship Tasks, F/SSWORK2, as described in Appendix B.

EQUIVALENCY: None. An equivalency may **NOT** be granted based on the completion of the SSA Structured Mentorship Tasks.

COURSE #: F/SSE

TITLE: SOFTWARE SURVEILLANCE EVALUATIONS

SOURCE: AQOF

LOCATION: Determined by source.

LENGTH: 5 Days.

OBJECTIVE: Advanced level students will learn to evaluate the results derived from the usage of software surveillance plans and tools to aid decision making in software surveillance activities.

DESCRIPTION: This course is comprised of a series of hands-on exercises using both simulated contractor data and tool sets from the Software Surveillance Applications (SSA) course. The student will demonstrate ability to apply SSA skills by performing analysis based on case studies, and presenting output of analysis performed. An emphasis is placed on in-depth surveillance planning, parametric analysis, Metrics (Measurement Indicators), Risk Management, Cost and Schedule, and Software Quality Evaluation.

PREREQUISITES: Successful completion of F/SSA, Software Surveillance Applications and familiarization with the Level II SSE Structured Mentorship Tasks, F/SSWORK3, as described in Appendix B.

EQUIVALENCY: None. An equivalency may **NOT** be granted based on the completion of the SSE Structured Mentorship Tasks.

COURSE #: F/SSF

TITLE: SOFTWARE SURVEILLANCE FUNDAMENTALS

SOURCE: AQOF

LOCATION: Determined by source.

LENGTH: 9 Days.

OBJECTIVE: To provide entry level software personnel basic knowledge of software surveillance fundamentals, with an emphasis on process oriented techniques.

DESCRIPTION: This is an introductory level course which covers fundamental topics related to software surveillance. The course consists of the following topics: DoD and DCMC policy, regulation, and guidance, the acquisition life cycle, systems and software engineering, the software development life cycle, software standards, software development activities, software documentation, software configuration management, software quality evaluations, metrics, management indicators, tools and cost/schedule estimating, technical support to negotiations, contract overview, software surveillance planning, surveillance tools, firmware and non-developmental software/COTS. Fundamental training is provided so that the identified software personnel become aware of surveillance activities which encompass contractually scheduled software life cycle processes and evaluation of contractor's compliance through the application of PROCAS.

PREREQUISITES: Successful completion of Q/S38, Microprocessor Fundamentals and familiarization with the SPDP Level I SSF Structured Mentorship Tasks, F/SSWORK1, as described in Appendix B.

EQUIVALENCY: Q/S39, QA Computer Software or SDF, Software Development Fundamentals are equivalent courses. An equivalency may **NOT** be granted based on the completion of the SSF Structured Mentorship Tasks.

COURSE #: F/SXX

TITLE: SYSTEMS ANALYSIS AND DESIGN

SOURCE: Colleges and universities, DCMC, USDA

LOCATION: Same as source.

LENGTH: 7 Days.

OBJECTIVE: To introduce the student to the basics of the design and structured analysis of systems. This will prepare the student for interaction with the contractor's software engineers, systems analysts, programmers, and technical managers.

DESCRIPTION: A five-phase approach is presented:
(1) preliminary investigation; (2) systems analysis; (3) systems design; (4) systems development; (5) systems implementation and evaluation. Also, post development is discussed along with special topics such as design heuristics, data flow diagrams, and language impacts.

PREREQUISITES: Successful completion of SPDP Level I Certification Requirements.

EQUIVALENCY: An equivalency may be granted in accordance with Section VII of the SPDP.

COURSE #: F/WRCT

TITLE: SOFTWARE SURVEILLANCE CERTIFICATION MAINTENANCE

SOURCE: AQOF

LOCATION: Determined by source.

LENGTH: 3 Days.

OBJECTIVE: To maintain certification of Level II and III software professionals every 3 years in the Software Surveillance Skill area. This training will assist software professionals to remain current in a challenging, complex, rapidly evolving field.

DESCRIPTION: This certification maintenance course may consist of the following topics: DoD and DCMC policy, regulation, and guidance; software development processes; software documentation; metrics, management indicators, and tools; cost and schedule estimating; technical support to negotiations; software surveillance planning; surveillance tools; risk management; software and systems engineering; and technology updates. Workshops will be included.

PREREQUISITES: Personnel eligible for certification maintenance. Refer to Section III.

EQUIVALENCY: None

COURSE #: F/XOA

TITLE: INTRODUCTION TO STRUCTURED PROGRAMMING

SOURCE: Colleges and universities, DCMC

LOCATION: Determined by source.

LENGTH: 10 Days.

OBJECTIVE: To introduce the students to the principle programming language concepts and show how they compare in both the traditional languages such as FORTRAN and in the newer structured, logic and object oriented languages such as Ada. The development of new languages have changed the way programs are designed. The student will be introduced to the concepts of several languages, and their features will be compared to see the benefits of a structured and disciplined design approach.

DESCRIPTION: The course is built around the approach of introducing a language, identifying its features, and use of basic code development tools. The introduction will discuss how designers have tried to extend the power of the language features while dealing with the constraints of implementation environments. Error detection will be explored to acquaint the students with a basic understanding of computer resource tools. Language syntax will be introduced so the student will understand how to compare similar constructs of any high-level language. The basic building blocks of a language, including the character set, identifier's rules and special symbols will be demonstrated through simple practical exercises.

PREREQUISITES: None.

EQUIVALENCY: An equivalency may be granted in accordance with Section VII of the SPDP. Successful completion of one of the accepted Ada programming (F/ADA) courses will satisfy the requirements for F/XOA.

COURSE #: F/X2

TITLE: SOFTWARE ENGINEERING INSTITUTE AFFILIATE PROGRAM

SOURCE: Software Engineering Institute (SEI)

LOCATION: Carnegie Mellon University
Pittsburgh, PA 15213-3890

LENGTH: One year, full time affiliation program.

OBJECTIVE: The Software Engineering Institute (SEI) was established to accomplish the following: apply new software technology toward improving weapon systems, influence the software curriculum development, and set new software standards of excellence. An affiliate program was established with the SEI to provide benefits to DLA, DLA employees, and SEI. This program has been developed to make SEI more effective by working to: (1) learn how new technologies can improve DoD software effectiveness; (2) bring diverse perspectives to SEI projects; and (3) become a liaison between the SEI and DoD.

DESCRIPTION: This program provides the associate an opportunity to work with industry and other Government Representatives in a "think tank" type environment. Resident affiliates work on technical projects of interest to SEI and DLA. Project assignments are determined by assessing how to make the best use of the affiliates' particular expertise while meeting the mutual goals and objectives of the SEI and DLA. The affiliate works to transfer the project's findings and other SEI work to DLA. This is done through quarterly reports and a final report to AQOF. Following completion of the program, the affiliate will develop a plan with AQOF to transfer/use the knowledge gained through the affiliate program. This may include training throughout DLA, membership in working groups at a DoD wide level, and assessments at other facilities. The affiliate can expect to travel extensively after completion of the program.

PREREQUISITE: This is a Level III-classified training opportunity. Individuals must be Level II certified and meet the criteria for entrance to Level III training opportunities. Although SEI requires seven years of software experience, candidates may combine five years of hands-on experience with two years of education in the software field.

SELECTION CRITERIA: All candidates for SEI Affiliation consideration must submit a resume outlining their experiences in free form (no 171s or KSAs) through the District to DCMC, ATTN: AQOF. The resume should concentrate on: (1) applicant's background; (2) education, both government and civilian; (3) awards; and (4) applicant's future goals. DCMC will screen the prospective affiliates' resumes and submit to the SEI. The SEI will then interview applicants and select an affiliate(s).

COURSE #: F/X3

TITLE: AFIT SOFTWARE PROFESSIONAL DEVELOPMENT PROGRAM

SOURCE: Air Force Institute of Technology AFIT/LSS (SPDP)
Wright-Patterson Air Force Base, OH 45433-7765
DSN 467-4550

LOCATION: Various locations for courses CSE492 through CSE495; same as source for CSE 496.

LENGTH: Approximately 300 hours for completion of five course program. CSE 492 through CSE 495 are each offered 1.5 hrs/day; 3 days/week for 10 - 11 weeks. CSE 496 is offered 8 hrs/day for 3 weeks.

OBJECTIVE: The SPDP consists of a series of five software engineering courses. Each course provides an intensive study in the principles and practices of software engineering. The first four courses (CSE 492 through CSE 495) are lecture-based taught via distance learning. The final course in the series is a laboratory-based in-residence capstone course taught at Wright-Patterson AFB.

PREREQUISITES FOR AFIT SPDP:

a. This is a SPDP Level III classified training opportunity. Individuals must be Level II certified and meet the criteria for entrance to Level III training opportunities. Candidates desiring to apply to the program must submit their AFIT application through AQOJ to AQOF for approval. AFIT reviews applications and accepts students into the SPDP.

b. An applicant must possess at least a bachelor's degree, most preferably in Computer Science, Engineering, or Math.

c. Formal college level course work must include:

- Data structures and/or algorithms.
- At least 2 courses in advanced math (this means courses beyond college algebra).

d. An applicant must also either have significant experience with or have taken a course in a procedural high order language (HOL) such as Ada, Pascal, Algol, Modula2, C++, C, Jovial, etc.

DESCRIPTION: D/CSE492 - Software Systems Engineering.
Introduces the concepts of SW engineering, systems engineering, and life cycle development.

PREREQUISITE: Admission to AFIT SPDP.

DESCRIPTION: D/CSE493 - Software Requirements and Design Engineering.
Addresses the activities of requirements analysis and architectural-level SW design.

PREREQUISITE: Successful completion of CSE492.

DESCRIPTION: D/CSE494 - Object Oriented Analysis and Design.
Presents object oriented requirements analysis and SW design.

PREREQUISITE: Successful completion of CSE492.

DESCRIPTION: D/CSE495 - Software Creation and Maintenance.
Finishes the lecture-based portion of the material with detailed design, SW generation, and SW maintenance.

PREREQUISITE: Successful completion of CSE492 and CSE493; computer programming experience and basic knowledge of data structures and algorithm analysis.

DESCRIPTION: D/CSE496 - Software Engineering Practicum.
Completes the series with a three-week long in-residence course which provides the students an opportunity to apply what they have learned from the preceding four courses in a state-of-the-art SW engineering laboratory.

PREREQUISITE: Successful completion of CSE492, CSE493, CSE494, and CSE 495.

COURSE #: F/X4

TITLE: SOFTWARE CAPABILITY EVALUATION

SOURCE: Software Engineering Institute (SEI)

LOCATION: Carnegie Mellon University
Pittsburgh, PA 15213-3890

LOCATION: 5 Days.

OBJECTIVE: Advanced level students will learn to evaluate a contractor's capability to develop software in a procedural manner. An SCE is a risk identification tool which can be used in source selection and contract monitoring. SCE usage provides data which can be used as one input for assessing and reducing risk on acquisition programs.

DESCRIPTION: This is a course that involves lecture, case studies, and hands-on exercises. Demonstration of use of the evaluation tool/criteria is emphasized throughout the presentation.

PREREQUISITES: Individuals must be SPDP Level II certified. Candidates are screened by AQOF for acceptance to course.

EQUIVALENCY: None.

APPLICABLE ASSIGNMENT AREA: Preaward Survey or contract monitoring if asked by buying activity or contractor. Course completion will indicate the individual may support AQOF in conducting SCEs.

COURSE #: F/X5

TITLE: ISO 9000-3 AUDITOR

SOURCE: Various commercial sources

LENGTH: 5 Days.

OBJECTIVE: Advanced level students will gain knowledge and experience to be a TickIT Auditor. The course meets training requirements of the National Registration Scheme for Assessors (UK). A secondary objective is to provide the knowledge and skills necessary to operate effectively in the Software Quality field.

DESCRIPTION: The course combines experiences from consultants in Lead Assessor training with TickIT training and Software Quality backgrounds. Topics discussed include, the TickIT scheme, assessment, role and requirements of the auditor, auditor skills, improving auditor techniques, and planning and carrying out an assessment. Lectures, discussions, case studies and a live audit are included in this course.

PREREQUISITES: This is a SPDP Level III-classified training opportunity. Individuals must be Level II certified and meet the criteria for entrance to Level III training opportunities. Candidates will be screened by AQOJ/AQOF for acceptance to the course.

EQUIVALENCY: An equivalency may be granted in accordance with Section VII of the SPDP.

APPLICABLE ASSIGNMENT AREA: Contracts with ISO 9001 and software as a product. The equivalent of Lead Assessor but designed to address the particular needs of software recommended by ISO 9000-3

COURSE #: F/X6LE

TITLE: CMM Based Appraisal SCE Lead Evaluator
Training Version 3.0

SOURCE: Software Engineering Institute at Carnegie Mellon University

LOCATION: Pittsburgh PA

LENGTH: 24 - 40 Hours

OBJECTIVE: This course is designed to provide training for certification as an SEI authorized Lead Evaluator of Software Capability Evaluation.

DESCRIPTION: The following topics are covered in depth: CMM overview and structure, interpretation of the CMM, methodology, appraisal framework, critical team skills, team collocation and preparation, development of evaluation plan, collection of data, interview strategies, SCE tailoring, process monitoring, SCE Lead Evaluator program requirements and restrictions.

PREREQUISITES: F/CMM, F/X4. SEI Requirements: Must have participated in two different SCE evaluations within the previous two years (cannot be two SCEs within the same source selection). Desirable to have participated in at least one as a SCE Team Leader. Possess a Bachelor's Degree or higher in a related field (i.e. business, computer science, engineering, etc.)

COURSE EQUIVALENCY: None Available

APPLICABLE ASSIGNMENT AREA: SEI authorized Lead Evaluator of Software Capability Evaluations for DCMC

COURSE #: Q/E12

TITLE: DIGITAL PRINCIPLES AND APPLICATION

SOURCE: Colleges and Universities, DCMC

LOCATION: Same as source.

LENGTH: 3 Semester Hours, 4.5 Quarter Hours (approximately 40 hours).

OBJECTIVE: This course is designed to provide the attendee with a working knowledge of the principal logic gates and the numbering systems used that make them work.

DESCRIPTION: This course will focus on the basic logic gates used in modern technology and how they apply to various systems. These gates will be discussed individually and will be connected to other gates for an understanding of how they will work together. The Unanimous Vote Detector is an example of putting several gates together to get a desired output.

Binary numbering system will be taught and will be applied to the various gates during some practical exercises. Binary numbers are considered a 0 or 1. This will represent 5 volts or ground inside a computer or other equipment using the binary system. Attendees will have a working knowledge of the binary system to include binary conversion, addition, subtraction.

The course will also contain other numbering systems such as the Octal and Hexadecimal numbering. There will be exercises to convert any of the numbering systems to another system including our decimal system.

TESTING/EXAMINATION/EVALUATION AND ASSIGNMENTS. Attendance performance assessment will be based upon test scores and demonstration through practical exercises.

EQUIVALENCY: Equivalency may be granted in accordance with Section VII of the SPDP. Computer Logic Circuits I, introduction to the control of digital processes and design of digital logic circuits, including Boolean logic, Logic devices, Minimization of logic, Number systems, PLA, PAL, ROM, Steering logic, Sequential logic circuits, and Registers, is a suitable equivalency course for Q/E-12. Equivalency may also be granted by the successful completion of a computer architecture course.

COURSE #: Q/SWE

TITLE: Software Engineering

SOURCE: Local College/University

LOCATION: Determined by source.

LENGTH: 6 semester hours

OBJECTIVE: This course is designed to take students through the entire software development life cycle and requirements analysis through product delivery.

DESCRIPTION: The following topics are covered in this course: Software development requirements, specifications, structured design and programming, program correctness proofs, program testing methods, software metrics as used in quality evaluation, programming systems and products, project management (estimating, scheduling, monitoring, evaluating) and team programming.

PREREQUISITES: Level I certification, F/SXX, F/Ada, F/SSA, F/SSE, and F/CMM.

EQUIVALENCY: An equivalency may be granted in accordance with Section VII of the SPDP.

COURSE #: Q/S32

TITLE: AUTOMATIC TEST EQUIPMENT (ATE)

SOURCE: Defense Logistics Agency/Defense Contract Management Command
AQOJ/Workforce Development
Ft Belvoir VA 22060
(703) 767-2353/DSN 427-2353
FAX (703) 767-2460/DSN 767-2460

LOCATION: On-site as determined by DCMDs.

LENGTH: 40 Hours.

OBJECTIVE: Upon completion of this course, the student will be able to explain the basic principles and terminology associated with ATE, comprehend the responsibilities related to the QA of ATE, and recognize the importance of requesting staff assistance when ATE is used at a contractor's facility.

DESCRIPTION: This course covers the basic principles of ATE in layman terms. ATE and related computer software terms are explained to allow the student to recognize the requirements for ATE and the contractor's use of ATE.

PREREQUISITE: None.

EQUIVALENCY: Equivalency may be granted in accordance with Section VII of the SPDP.

COURSE #: Q/S38

TITLE: COMPUTER MICROPROCESSOR FUNDAMENTALS

SOURCE: Colleges and Universities, DCMC

LOCATION: Same as source.

LENGTH: 3 Semester Hours, 4.5 Quarter Hours (approximately 40 hours).

OBJECTIVE: This course will describe the basic principles of computer science. The following principles are covered: Fundamental computer/microprocessor concepts, microprocessor systems, computer software, and selected topics in computer science.

DESCRIPTION: This course covers the following topics: An introduction to Computers including the various components that make up a computer; the various types of storage units; how computers are used; the evolution of the computer industry; how data is processed on a computer; the evolution of microchips and logic gates and what makes them work; Input and Output Devices; PC System Architecture; Programming Languages (what is a computer program, a discussion of the advantages and disadvantages of various languages including ASSEMBLER, FORTRAN, COBOL, PL/1, RPG, BASIC, PASCAL, ADA, "C" and LOGO); an Introduction to Assembly Language, and Program Design, Coding and Implementation.

TESTING/EXAMINATION/EVALUATION AND ASSIGNMENTS. Attendance performance assessment will be based upon test scores and demonstration through practical exercises.

PREREQUISITE: None.

EQUIVALENCY: Equivalency may be granted in accordance with Section VII of the SPDP. Systems Architecture, an introduction to the internal functions and organization of digital computers, including the following topics: instruction sets, addressing methods, input-output architectures, central processor organization, machine language, assembly language, computer system operations, programming techniques, operating system interfacing, and organization of assemblers and loaders, is a suitable equivalency course for Q/S38.

COURSE #: Q/U06

TITLE: DCMC QUALITY ASSURANCE SUPPORT OF NASA

SOURCE: Defense Logistics Agency/Defense Contract Management Command
AQOJ/Workforce Development
Ft Belvoir VA 22060
(703) 767-2353/DSN 427-2353
FAX (703) 767-2460/DSN 767-2460

LOCATION: On-site as determined by DCMDs.

LENGTH: 32 Hours.

OBJECTIVE: To provide a working knowledge of National Aeronautics and Space Administration (NASA) QA support requirements for Government agencies and how these differ from DoD QA support requirements found in DLAM 8200.5. Students should gain an understanding of the specific actions that their NASA delegation will require of them.

DESCRIPTION: Students are given an overview of the QA support requirements delegated by NASA to the DCMOs and their relationship to the QA requirements specified by contract. The significance of QA support requirements is discussed in terms of their contribution to the OAR's workload. The nature of the actions called for to meet NASA expectations is also discussed. Students will gain familiarity with NASA Handbooks 5300.4(1B), 5300.4(1C), 5300.4(1D-2), and 5300.4(2B-2).

PREREQUISITE: None.

EQUIVALENCY: None authorized.

COURSE #: Q/U06B

TITLE: DCMC SUPPORT OF NASA UPDATE

SOURCE: Defense Logistics Agency/Defense Contract Management Command
AQOJ/Workforce Development
Ft Belvoir VA 22060
(703) 767-2353/DSN 427-2353
FAX (703) 767-2460/DSN 767-2460

LOCATION: On-Site as determined by DLA activity.

LENGTH: 8 Hours.

OBJECTIVE: Upon completion of this training, DCMC personnel will have a basic understanding of the NASA NHB5300.4 (2B-2) requirements for the management of the Government Quality Assurance function for NASA contracts.

DESCRIPTION: This course provides DCMC personnel with an understanding of specific differences between NASA Handbooks NHB5300.4 (2B-1) and NHB5300.4 (2B-2).

PREREQUISITE: Must have successfully completed DCMC U06 course prior to January 1993.

EQUIVALENCY: Completion of the DCMC U06 course (NHB5300.4 (2B-2)) after January 1993.

COURSE #: Q/X31

TITLE: BEGINNERS ALL-PURPOSE SYMBOLIC INSTRUCTION CODE (BASIC).

SOURCE: Colleges and Universities.

LOCATION: Same as source.

LENGTH: 3 Semester Hours, 4.5 Quarter Hours (approximately 40 hours).

OBJECTIVE: Upon completion of this course, the student will be able to design, write, and debug relatively simple BASIC programs.

DESCRIPTION: The course covers the following topics: operators, constraints, literal strings, variables, expressions, input/output statements, branching, looping, and arrays.

PREREQUISITE: None.

EQUIVALENCY: Equivalency may be granted in accordance with Section VII of the SPDP.

COURSE #: Q/X34

TITLE: ADA LANGUAGE

SOURCE: Commercial computer software houses, professional societies, or Colleges and Universities.

LOCATION: Same as Source.

LENGTH: 40-80 Hours.

OBJECTIVE: Upon completion of this course, the student will have a general understanding of Ada and will be able to read an Ada program.

DESCRIPTION: The course covers the following topics: a brief introduction (covering the current hardware/software environment and the rationale behind a common DoD language) and the Ada program (basic elements, types, subprograms, modules, generic program units, tasking, distributed processing, and exception handling).

PREREQUISITES: Successful completion of SPDP Level I certification requirements.

EQUIVALENCY: An equivalency may be granted in accordance with Section VII of the SPDP.

COURSE #: Q/X35

TITLE: ASSEMBLY LANGUAGE

SOURCE: Colleges and Universities.

LOCATION: Same as source.

LENGTH: 3 Semester Hours, 4.5 Quarter Hours (approximately 40 hours).

OBJECTIVE: Upon completion of this course, the student will have a general understanding of ASSEMBLY and will be able to read an Assembly program.

DESCRIPTION: The course covers the following topics: standard and decimal instruction sets, branching and loop control, indexing, data manipulation and verification, definition of storage areas and constants, sequential file processing, subroutines, macro instructions, and Assembler instructions.

PREREQUISITE: Personnel attending this course must have successfully completed course Q/S38, Microprocessor Fundamentals, or an equivalent fundamentals or programming course, or any machine language oriented course.

EQUIVALENCY: Equivalency may be granted in accordance with Section VII of the SPDP.

COURSE #: Q/X36

TITLE: FORMULA TRANSLATION (FORTRAN)

SOURCE: Colleges and Universities.

LOCATION: Same as source.

LENGTH: 3 Semester Hours, 4.5 Quarter Hours (approximately 40 hours).

OBJECTIVE: Upon completion of this course, the student will have a general understanding of FORTRAN and will be able to read a FORTRAN program.

DESCRIPTION: The course covers the following topics: arithmetic operations, decision making and branching, input formatting and built-in functions, floating point, concepts and uses of single and multiple dimension arrays, subscripts and DO loops.

PREREQUISITE: None.

EQUIVALENCY: Equivalency may be granted in accordance with Section VII of the SPDP.

COURSE #: Q/X37

TITLE: ABBREVIATED TEST LANGUAGE FOR ALL SYSTEMS (ATLAS).

SOURCE: Air Force buying activities procuring ATLAS computer software. Commercial computer software houses may be used.

LOCATION: Same as source.

LENGTH: 200 Hours.

OBJECTIVE: Upon completion of this course, the student will have the basic understanding of the evolution of a test program set and will be able to develop a simple test program set in ATLAS.

DESCRIPTION: The course covers the following topics: analysis of the Unit Under Test (UUT), Test Requirements Document (TRD), ATLAS Adapter/Interface, (A/I) files or look-up tables, Automatic Test Equipment (ATE) files, ATLAS compiler, and the test program set (TPS).

PREREQUISITE: Personnel must have successfully completed the following courses: Q/S32, Automatic Test Equipment (ATE), Q/S55, Electronics Part II, Q/E12, Digital Principles and Applications, and Q/X31, Beginning All-Purpose Symbolic Instruction Code (BASIC).

EQUIVALENCY: Equivalency may be granted in accordance with Section VII of the SPDP.

COURSE #: Q/X39

TITLE: JULES' OWN VERSION OF THE INTERNATIONAL ALGEBRAIC LANGUAGE (JOVIAL).

SOURCE: Colleges and Universities.

LOCATION: Same as source.

LENGTH: 3 Semester Hours, 4.5 Quarter Hours (approximately 40 hours).

OBJECTIVE: Upon completion of this course, the student will have a general understanding of JOVIAL and will be able to read a JOVIAL program.

DESCRIPTION: The course covers the instruction and practice in the principles and concepts of the JOVIAL language, data organization, statement format, and programming techniques.

PREREQUISITE: None.

EQUIVALENCY: Equivalency may be granted in accordance with Section VII of the SPDP.

COURSE #: Q/X62

TITLE: SOFTWARE RELIABILITY.

SOURCE: Various Government and commercial sources.

LOCATION: Various.

LENGTH: 16 Hours.

OBJECTIVE: Upon completion of this course, the student will have an understanding of how to apply reliability and related concepts to predict software deficiencies and failures.

DESCRIPTION: This course covers the following topics: reliability requirements of DoD Directive 5000.40, Reliability and Maintainability, the value of reliability measurement in software QA, and basic concepts that will allow the student to communicate effectively with software reliability personnel and interpret results. The students will also be able to identify the possible users for software reliability measurements from a QA perspective.

PREREQUISITE: Personnel nominated to attend this course must have successfully completed course F/SSF, Software Surveillance Fundamentals.

EQUIVALENCY: Equivalency may be granted in accordance with Section VII of the SPDP.

APPENDIX D

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APPENDIX - E

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See sample forms on pages E-2 through E-14

REQUEST FOR ENTRY INTO THE SPDP

PART A: EMPLOYEE INFORMATION

NAME: _____
(LAST, FIRST, MI)

GS - - _____
(SCALE, SERIES, GRADE) (TITLE)

ADDRESS: _____
(ORGANIZATION)

_____
(OFFICE CODE)

_____
(ADDRESS 1)

_____
(ADDRESS 2)

_____ , _____ - _____
(CITY, STATE) (ZIP + 4)

PHONE: (___) - ext: (___) - _____
(COMMERCIAL) (FAX)

EMPLOYEE CODE: _____ EMAIL: _____

PART B: SOFTWARE SURVEILLANCE CERTIFICATION GOAL REQUESTED

1. ☐ **Level I** (Applicant is assigned to Level I Software Activities.)

-or-

2. ☐ **Level II** (Applicant is assigned to Level I and Level II Software Activities.)

PART C: RELATED TRAINING HISTORY

(1) LEVEL I - Introductory Level - Enter date(s) for SPDP course(s) you have completed or received equivalency for.

COURSE CODE	COURSE TITLE	DATE COMPLETED (MM-DD-YY)
Q/E12	Digital Principles and Applications	
Q/S38	Microprocessor Fundamentals	
F/XOA	Introduction to Structured Programming	
F/SSWORK1	SSF Mentorship Tasks	
F/SSF	Software Surveillance Fundamentals	

(2) Check any mandatory SPDP Level I requirements you wish to request an equivalency for with this application.

COURSE CODE	MANDATORY SPDP LEVEL I COURSE TITLE
☐ Q/E12	Digital Principles and Applications
☐ Q/S38	Microprocessor Fundamentals
☐ F/XOA	Introduction to Structured Programming
☐ F/SSWORK1	SSF Mentorship Tasks
☐ F/SSF	Software Surveillance Fundamentals

NOTE: You must attach evidence for any SPDP Level I courses you have identified as completed in Part C-1 above. You must also attach the SPDP Equivalency Request Form E-13, for each item checked in Part C-2 above.

REQUEST FOR ENTRY INTO THE SPDP

NAME: _____
(LAST, FIRST, MI)

(3) **LEVEL II** - Journey Level - Enter date(s) for SPDP course(s) you have completed or received equivalency for.

COURSE CODE	COURSE TITLE	DATE COMPLETED (MM-DD-YY)
F/SXX	Introduction to Structured Design and Analysis	
F/ADA	Ada Programming	
F/SSWORK2	SSA Mentorship Tasks	
F/SSA	Software Surveillance Applications	
F/SSWORK3	SSE Mentorship Tasks	
F/SSE	Software Surveillance Evaluations	
F/CMM	Capability Maturity Model	

(4) Check any mandatory SPDP Level II requirements you wish to request an equivalency for with this application.

COURSE CODE	MANDATORY SPDP LEVEL II COURSE TITLE
☐ F/SXX	Systems Analysis & Design
☐ F/ADA	Ada Programming
☐ F/SSWORK2	SSA Mentorship Tasks
☐ F/SSA	Software Surveillance Applications
☐ F/SSWORK3	SSE Mentorship Tasks
☐ F/SSE	Software Surveillance Evaluations
☐ F/CMM	Capability Maturity Model

NOTE: You must attach evidence for any SPDP Level II courses you have identified as completed in Part C-3 above. You must also attach an Equivalency Request Form (Page E-13 or equivalent) for each item checked in Part C-4 above.

PART D: CAO DESIGNATION OF ADDITIONAL MANDATORY COURSE(S)

(1) List any other software development/program relevant course(s) not identified above, that meet the criteria as described in Section II.

COURSE CODE / COURSE TITLE
/
/
/

Note: Part D information is used for planning purposes by the Workforce Development Directorate. (You may attach a separate list if you need more room.)

REQUEST FOR ENTRY INTO THE SPDP

NAME: _____
(LAST, FIRST, MI)

PART E: RESOURCE ESTIMATING MODEL DOCUMENTATION

Note: The "Software Professional Estimating and Collection System" (SPECS) tool produces resource estimation data which is used to determine the number of resources needed to perform software surveillance in the CAO based on contract workload. **You must submit this resource estimation data from SPECS with your application.**

(1) Does the resource estimation data from the SPECS tool support you performing software CAS on a ***full time*** basis? ☐ YES *(Go to F)* ☐ NO *(Goto E-2)* ***(YES means that your application may be accepted, and that your training requirements will be entered into the DBMS as priority 1, mission essential.)***

(2) Does the resource estimation data from the SPECS tool support you performing software CAS on a ***part-time*** basis? ☐ YES *(Goto F)* ☐ NO *(Goto E-3)* ***(YES means that your application may be accepted, and that your training requirements will be entered into the DBMS as priority 2, career development.)***

(3) If you selected NO for E-2, your formal entry into the SPDP cannot be accepted, and your application will be returned. However, your local training coordinator may still enter your training request for SPDP course(s) into the DBMS as a priority 3.

PART F: SIGNATURE OF APPLICANT AND REQUESTING OFFICIALS

_____ _____
Applicant Signature Date (MM-DD-YY)

_____ ( ) - ext. _____
Immediate Supervisor Signature, Typed Name, Date, and Commercial Phone)

_____ ( ) - ext. _____
Higher Level Authority Signature, Typed Name, Date, and Commercial Phone)

_____ ( ) - ext. _____
CAO Commander Signature, Typed Name, Date, and Commercial Phone)

SPDP LEVEL III APPLICATION

NAME: _____
(LAST, FIRST, MI)

DCMD WORKFORCE DEVELOPMENT DIRECTORATE REVIEW ***(For use by DCMD Workforce Development Personnel. A copy will be returned, through channels, to applicant.)***

1. Applicant has been granted entry to the SPDP at requested Level ☐ I / ☐ II as priority ☐ 1 / ☐ 2.
   -or- ☐ Application has been returned because the applicant is a priority 3.

2. The following information was missing from the application:

☐ None.
☐ Objective evidence of completed software courses.
☐ Form E-13 not submitted for equivalencies identified in the Level I / II Checklist.
☐ Resource Model data from SPECS.
☐ Required signatures.
☐ Other _____

3. Equivalencies for past training ☐ has / ☐ has not been submitted for SPDP course(s).

4. Are there any CAO/Supervisor mandatory courses identified?
   ☐ Yes ☐ No ***If yes, please ensure the CAO's local TC enters them into the applicant's DBMS record for planning***

5. A mentor ☐ is / ☐ is not required for the applicant.
   If a mentor is required, ☐ CAO has a qualified mentor or ☐ the following name(s) are qualified mentors in your area:

NAME: _____
OFFICE LOCATION: _____
PHONE NUMBER: ( ) - ext. _____
(Commercial)

NAME: _____
OFFICE LOCATION: _____
PHONE NUMBER: ( ) - ext. _____
(Commercial)

NAME: _____
OFFICE LOCATION: _____
PHONE NUMBER: ( ) - ext. _____
(Commercial)

_____ ( ) - ext. _____
Workforce Development SPDP Manager Signature, Typed Name, Date, and Commercial Phone)

_____ ( ) - ext. _____
Staff Software Professional Signature, Typed Name, Date, and Commercial Phone)

SPDP LEVEL III APPLICATION

PART A: EMPLOYEE INFORMATION

NAME: _____
(LAST, FIRST, MI)

GS - - _____
(SCALE, SERIES, GRADE) (TITLE)

ADDRESS: _____
(ORGANIZATION)

_____
(OFFICE CODE)

_____
(ADDRESS 1)

_____
(ADDRESS 2)

_____ , _____ - _____
(CITY, STATE) (ZIP + 4)

PHONE: (___) - ext: (___) - _____
(COMMERCIAL) (FAX)

EMPLOYEE CODE: _____ EMAIL: _____

PART B: APPLICATION STEP *(Check ONLY one block)*

		Complete These Pages:
1.	☐ I am requesting enrollment in the SPDP Level III Development Program.	*E-6, E-7, E-8, & E-10*
-or-		
2.	☐ I am applying for SPDP Level III certification based on accumulated Skill(s).	*E-6, E-7, E-9, & E-10*

PART C: PREREQUISITES *(See Section IV)*

1. Are you currently certified as a Level II in accordance with the SPDP?
   ☐ YES ☐ NO **(If NO, you cannot apply for Level III Certification)**

2. Do you have at least 7 years of software development related experience?
   ☐ YES ☐ NO **(If NO, you cannot apply for Level III Certification)**

Note: *You must complete the following chart with your experience breakout.*

CATEGORY	YEARS	MONTHS
1. Government Software Development Experience (*See note below)		
2. Industrial Software Development Experience		
3. Educational Software Development Experience (**See note below)		
TOTAL:		

* You must have at least 2 years of software development experience that is Government related.
** You are allowed a maximum of 2 years. The formula used is 1 month for each "software development" related course that is not excluded by the limitations identified in Section IV. "NOTE". You must also provide a list & proof of completion for those courses you are identifying as educational experience.

SPDP LEVEL III APPLICATION

NAME: _____
(LAST, FIRST, MI)

3. Check the appropriate block to indicate your educational level:

	LEVEL	MAJOR(s) / MINOR(s)
☐	Doctorate	/
☐	Masters	/
☐	Bachelor	/
☐	Associate	/
☐	Technical	/
☐	Other (*Describe*)	
☐	None of the above	

4. Do you have at least one recognizable area of expertise that is identified in the "Skill Description" table in Section IV?

☐ YES ☐ NO ***(If you answered NO, and if you are not applying for Level III registration based on the "SPDP Level III Development Program" as defined in Section IV, you cannot apply for Level III certification).***

5. Are you currently DAWIA certified at the appropriate level for your grade, series, and specific career path as required?

☐ YES ***(Go to 5a)*** ☐ NO ***(If you answered NO, You cannot apply for Level III certification)***

PART D: APPLICANTS QUALIFYING SKILL(S)

1. Enter the code(s) for the skill(s) from Section IV that qualifies you for Level III certification using the block(s) below. ***(Or enter N/A and use Form E-14 to request approval of a skill not yet identified.)***

/	/	/	/	/

Attach a narrative and data detailing all courses taken, experiences acquired, and how you applied your knowledge to demonstrate mastery of the skill area(s) identified above.

2. Enter the code(s) for the application domain(s) from Section IV that you have experience in applying the skill area(s) that you identified in Part D-1 using the block(s) below.

/	/	/	/	/

Make sure that your attached narrative and data for the skill area(s) identified in Part D-1 above includes information detailing your experience and knowledge for the application domain area(s) identified in Part D-2, above. Also include any support data such as Letters of Recognition/Appreciation, copies of presentations you made, or anything else deemed appropriate to demonstrate support of your claims above.

REQUEST FOR ENTRY INTO SPDP LEVEL III
INDIVIDUAL DEVELOPMENT PROGRAM

NAME: _____
(LAST, FIRST, MI)

This Form is reserved for personnel who do not have any specialized or unique skill(s), but wish to pursue a curriculum that will lead to Level III certification.

1. The following is a check-list of additional items you must prepare and include along with this application:

- ☐ SPDP Level III Development Plan (L3DP).
- ☐ Form E-11 if you entered N/A in Part D-1.
- ☐ Outlines and Descriptions of courses/training needed to support the skill area(s) you intend to develop under your L3DP.
- ☐ Narrative on how the courses/training will be applied to obtain experience in the skill area(s) you intend to develop under your L3DP.
- ☐ A milestone of events detailing the course(s)/training, and application of individual effort to obtain the experience.

2. Do you need a Level III "Master Level" Software Surveillance Professional assigned to you to assist, support, or guide you in your efforts? ☐YES ☐ NO

Note: If your application is accepted, as each milestone you have identified above is completed, you must complete Form E-11, Level III Milestone Accomplishments, and submit it to the DCMD Workforce Development SPDP Manager.

3. Signature Blocks:

I (the undersigned) hereby request that my application be considered for acceptance based on the provisions described in Section IV of the SPDP. I further understand that I must accomplish all of the milestones that are identified in my L3DP prior to being considered for Level III certification. I also understand that I will be expected to expend up to 25% of my available time supporting higher level assignments which will assist me in obtaining SPDP Level III certification. Furthermore, I also understand that upon certification, I will be expected to expend the time necessary to support my L3DP or higher level DCMC assignment, or in support of a CAO, both of which may include extended TDY.

_____ _____
Applicant Signature Date (MM-DD-YY)

We (the undersigned) support this employee's request to be accepted as a SPDP Level III applicant. We have read and understand Section IV of the SPDP and acknowledge that this employee may be required/requested to expend up to 25% of his/her available time on a higher-level assignment(s) which will assist the applicant in obtaining their Level III certification. Furthermore, we also understand that once the employee obtains his/her SPDP Level III certification, that this employee will be expected to expend the time necessary to support my L3DP or higher level DCMC assignment, or in support of a CAO, both of which may include extended TDY. (See SPDP Section IV)

_____ ( ) - ext.
Immediate Supervisor Signature, Typed Name, Date, and Commercial Phone)

_____ ( ) - ext.
CAO Commander Signature, Typed Name, Date, and Commercial Phone)

SPDP LEVEL III APPLICATION: CERTIFICATION BASED ON ACCUMULATED SKILLS

NAME: _____
(LAST, FIRST, MI)

This Form is reserved for personnel who wish to be recognized as already having SPDP Level III required specialized or unique skill(s).

1. DCMC employees obtaining SPDP Level III Certification are expected to perform duties or specialized assignment details as tasked by the DCMC Software Center in order to support DCMC Command level mission critical requirements.

2. Signature Blocks:

I (the undersigned) hereby request that my application be considered for acceptance based on the provisions described in Section IV of the DCMC SPDP. I further understand that I may be required/requested to participate in DCMC higher level activities, or be required/requested to support a CAO requesting assistance. I also understand that if I am assigned to a higher level activity, or assigned to support a CAO, these tasks may require me to expend up to 51% of my time in support of them and may require extended periods TDY.

_____ _____
Applicant Signature Date (MM-DD-YY)

We (the undersigned) support this employee's request to be considered for SPDP Level III "Accumulated Skills" qualified. We have read and understand Section IV of the SPDP and acknowledge that this employee may be required/requested to expend up to 51% of his/her available time supporting a higher-level DCMC assignment, or in support of a CAO, both of which may include extended TDY.

_____ ( ) - ext.
Immediate Supervisor Signature, Typed Name, Date, and Commercial Phone)

_____ ( ) - ext.
Higher Level Authority Signature, Typed Name, Date, and Commercial Phone)

_____ ( ) - ext.
CAO Commander Signature, Typed Name, Date, and Commercial Phone)

SPDP LEVEL III APPLICATION: KNOWLEDGE, SKILLS, AND ABILITIES

NAME: _____
(LAST, FIRST, MI)

1. Describe how you meet the following competencies associated with Level III External Opportunities.
INSTRUCTIONS: Use a separate sheet of paper for each below, attach it to this form and submit it with your application to the SPDP Lead Agent.

Level III Generalized Competencies	***Attachment / Number of Pages***
Leadership Skills	/
Organizational Skills	/
In-depth understanding of DCMC Software Surveillance Policies	/
In-depth understanding of DoD software development policies	/
Ability to communicate the state-of-technology of software	/
As a DCMC SPDP Level III "Senior Level" software surveillance professional, what would be the most significant contributions you could make for DCMC?	/

SPDP LEVEL III - WORKFORCE DEVELOPMENT WORKSHEET

PART A: EMPLOYEE INFORMATION

NAME: _____
(LAST, FIRST, MI)

GS - - _____
(SCALE, SERIES, GRADE) (TITLE)

ADDRESS: _____
(ORGANIZATION)

_____
(OFFICE CODE)

_____
(ADDRESS)

_____ , _____ - _____
(CITY, STATE) (ZIP + 4)

PHONE: ( ) - ext: ( ) -
(COMMERCIAL) (FAX)

EMPLOYEE CODE: _____ EMAIL: _____

The following must be completed by all certified DCMC Level IIIs as each new "specialized or unique skill(s)" is acquired, or by personnel who are enrolled in the Level III Development Program, as each milestone task is completed that was identified in their SPDP Level III Development Plan (L3DP).

PART B: NOTIFICATION OF NEW, SPECIALIZED, OR UNIQUE SKILL(S) ACQUIRED

NOTE: This section to be completed ONLY by DCMC personnel who are already Level III certified.

1. Enter the skill code( ) from Section IV that you have acquired and are requesting to be added to your Level III profile.

/	/	/	/	/

2. Provide as an attachment, objective evidence of training and or assignments, and a narration of "how you gained experience and applied your knowledge to acquire competency" in the specialized or unique skill(s) you have identified above.

PART C: NOTIFICATION OF MILESTONE TASK/COURSE COMPLETION

NOTE: This section to be completed ONLY by DCMC personnel who are enrolled in the SPDP Level III Development Program.

☐ I have completed a milestone (such as training) that was identified in my L3DP. I am enclosing objective evidence of the milestone completion as required by Section IV. Please update my profile.

☐ I have completed all of the milestones (such as training) that were identified in my L3DP. I am enclosing up-to-date objective evidence (as required by Section IV) that may be required to prove completion of the entire L3DP. Please review my completed profile.

PART D: SIGNATURE BLOCKS

We (the undersigned) hereby certify the above information to be true. We request that this information be considered and, if approved, added to the applicants skill(s) file if already certified at Level III (if based on PART B) / SPDP Level III Development Plan profile (if based on PART C).

_____ _____
Applicant Signature Date (MM-DD-YY)

_____ ( ) - ext.
Immediate Supervisor Signature, Typed Name, Date, and Commercial Phone)

SPDP LEVEL III - WORKFORCE DEVELOPMENT WORKSHEET

NAME: _____
(LAST, FIRST, MI)

Lead Agent/DCMD WORKFORCE DEVELOPMENT DIRECTORATE REVIEW

(For use by DCMD Workforce Development Personnel. A copy will be returned to applicant.)

1. Identify the type of request/application submitted:
   - ☐ Individual Development Program [DB Code "W"] Projected Completion date is: _____ (MM-DD-YY)
   - ☐ Accumulated Skill(s) _____
   - ☐ Level III Milestone Accomplishments
     - ☐ Notification of new, specialized, or unique skill acquired
     - ☐ Notification of milestone task/course completion
   - ☐ New Level III specialized or unique skill identified
2. The request/application is:
   - ☐ *Accepted* ☐ *Not Accepted* ☐ *Pending*
3. Provide a brief explanation if "*Not Accepted*" or "*Pending*" are checked:

(If a detailed explanation is necessary, attach an Interoffice Memorandum to this work-sheet and check here ☐)

4. The following information was missing from the application:
   - ☐ None.
   - ☐ Objective evidence of: _____
   - ☐ Required signatures missing.
   - ☐ Other: _____
5. DCMC/DCMD Signature Blocks:

_____ ( ) - ext. _____
Workforce Development SPDP Manager Signature, Typed Name, Date, and Commercial Phone)

_____ ( ) - ext. _____
Staff Software Professional Signature, Typed Name, Date, and Commercial Phone)

SPDP EQUIVALENCY REQUEST

NAME *(Last, First, Middle Initial)*	ORGANIZATION (e.g., GF/AO BOSTON)

INSTRUCTIONS: Please complete blocks 1. through 13. **Attach additional pages as required. Use a separate form for each course.**

1. COURSE CODE AND TITLE OF CERTIFICATION COURSE FOR WHICH EQUIVALENCY IS REQUESTED.

2. TYPE OF TRAINING (COLLEGE, VOCATIONAL, ARMED FORCES, BUSINESS, CORRESPONDENCE, ETC.

CHECK ONE ☐ Classroom ☐ On-The-Job Training ☐ OTHER (Specify) _____

3. COURSE NAME

4. NAME & LOCATION (City & State) OF SCHOOL AND/OR FACILITY

5. DATES OF TRAINING (DD/MM/YY) FROM: TO:	6. TOTAL TRAINING HOURS

7. DESCRIPTION OF COURSE/ON-THE-JOB TRAINING/MENTORING, ETC.

8. WHAT WORK, IN ANY, WAS REQUIRED BESIDES ATTENDANCE AT TRAINING SESSION (i.e., tests, written work assignments, reading field observations, etc.)

9. DOCUMENTATION: Attach supporting documentation (Diplomas, Transcripts, Certificates, etc.) Documentation should verify attendance and the duration of the training experience.

☐ Certificate Of Completion ☐ Program or Course Description/Synopsis

☐ Other (Specify)

10. EMPLOYEE'S SIGNATURE:	11. DATE
12. SUPERVISOR'S CONCURRENCE (Signature & Printed Name)	13. DATE
14. SOFTWARE PROFESSIONAL (Signature & Printed Name) ☐ APPROVED ☐ DISAPPROVED	15. DATE
16. PROGRAM MANAGER (Signature & Printed Name) ☐ APPROVED ☐ DISAPPROVED	17. DATE

PART A: REQUESTER'S INFORMATION

NAME: _____
(LAST, FIRST, MI)

GS - - _____
(SCALE, SERIES, GRADE) (TITLE)

ADDRESS: _____
(ORGANIZATION)

_____
(OFFICE CODE)

_____
(ADDRESS 1)

_____
(ADDRESS 2)

_____ , _____ - _____
(CITY, STATE (ZIP + 4)

PHONE: ( ) - ext: ( ) - _____
(COMMERCIAL) (FAX)

EMAIL: _____

PART B: "NEW SKILL" THAT SHOULD BE ADDED TO SECTION IV

In the block below, provide a "TITLE" for the "New skill" you believe should be added to Section IV.

Attach a narrative which explains in detail what the "New skill" is that you have identified above, and why you think it should be recognized and added to Section IV.

PART C: "NEW DOMAIN" - WHICH SHOULD BE ADDED TO SECTION IV

In the block below, provide a "TITLE" for the "New Domain" that you believe should be added to Section IV.

Attach a narrative which explains in detail what the "New Domain" is that you have identified above, and why you think it should be recognized and added to Section IV.

_____ ( ) - ext.
Requester's Signature, Typed Name, Date, and Commercial Phone)

APPENDIX - F

CERTIFICATES

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SEE SAMPLE CERTIFICATES ON PAGES F-2 THROUGH F-4

SOFTWARE PROFESSIONAL DEVELOPMENT PROGRAM

Firstname MI. Lastname

HAS SUCCESSFULLY FULFILLED THE REQUIREMENTS FOR CERTIFICATION AT

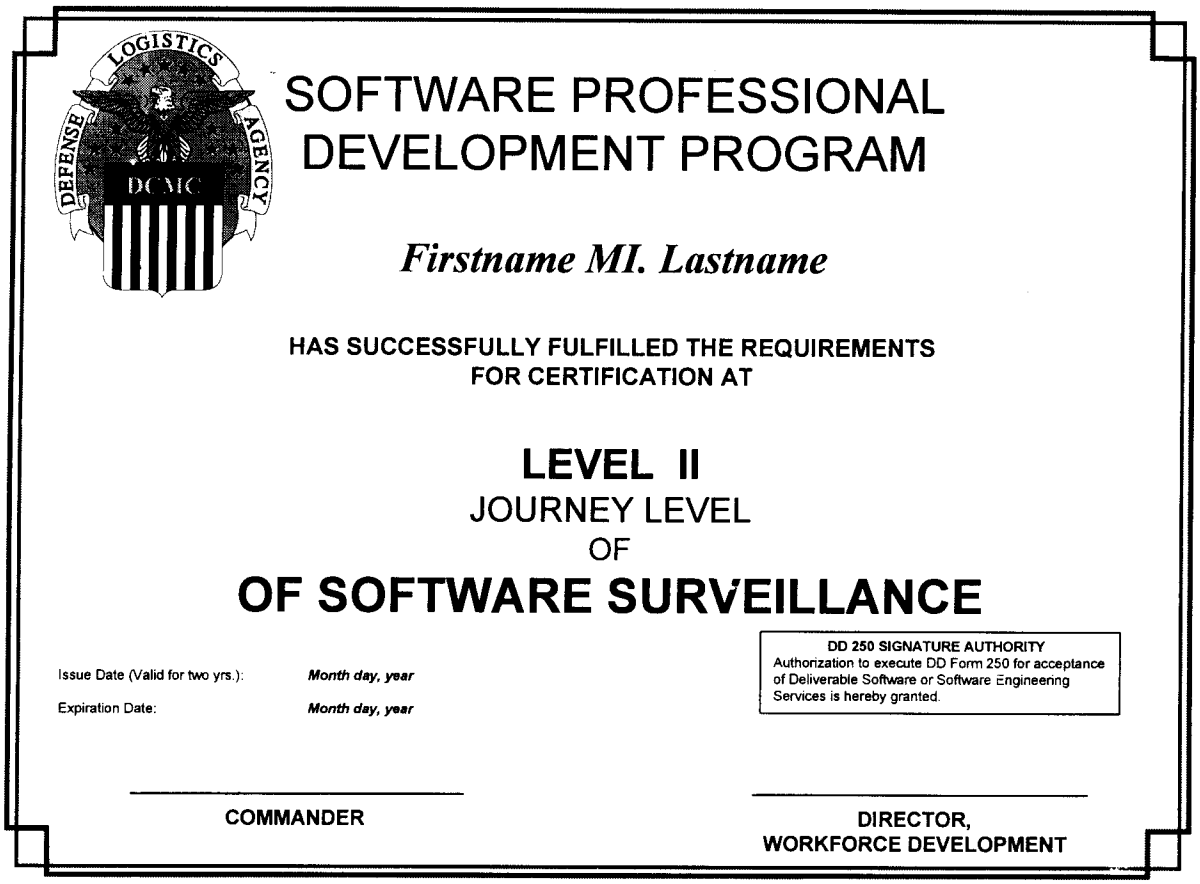
LEVEL I

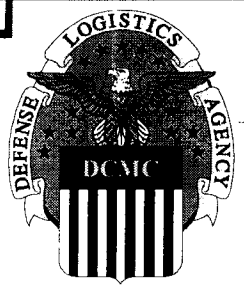
INTRODUCTORY LEVEL

OF

OF SOFTWARE SURVEILLANCE

COMMANDER	DIRECTOR, WORKFORCE DEVELOPMENT


LOGISTICS
DEFENSE
AGENCY
DCMC
SOFTWARE PROFESSIONAL
DEVELOPMENT PROGRAM
Firstname MI. Lastname
HAS SUCCESSFULLY FULFILLED THE REQUIREMENTS
FOR CERTIFICATION AT
LEVEL II
JOURNEY LEVEL
OF
OF SOFTWARE SURVEILLANCE
Issue Date (Valid for two yrs.): Month day, year
Expiration Date: Month day, year
DD 250 SIGNATURE AUTHORITY
Authorization to execute DD Form 250 for acceptance of Deliverable Software or Software Engineering Services is hereby granted.
COMMANDER
DIRECTOR,
WORKFORCE DEVELOPMENT



SOFTWARE PROFESSIONAL DEVELOPMENT PROGRAM

Firstname MI. Lastname

HAS SUCCESSFULLY FULFILLED THE REQUIREMENTS FOR CERTIFICATION AT

LEVEL III

SENIOR LEVEL

OF

OF SOFTWARE SURVEILLANCE

Issue Date (Valid for two yrs.): ***Month day, year***

Expiration Date: ***Month day, year***

DD 250 SIGNATURE AUTHORITY
Authorization to execute DD Form 250 for acceptance of Deliverable Software or Software Engineering Services is hereby granted.

DCMC COMMANDER

APPENDIX - G

DATA INPUT INSTRUCTIONS FOR WORKFORCE DEVELOPMENT AND OTHER TRAINING STAFF PERSONNEL

G-100 PURPOSE. This appendix provides guidance on the use of the DBMS Training Application's Training Office and Quality Assurance Menus to maintain SPDP Training and Certification records. This appendix references the Training Application System Training Office User Manual.

G-101 GENERAL. Updates, requests for reports and inquiries to the DBMS Training Application are made via terminals that access the PLFA's mini-mainframe computer, the 3B2. All changes processed via terminals into the DBMS Training Application are made instantaneously. The DCMDs are responsible for providing information concerning the extent and level of data to be input by CAOs. Certification Codes One and Two and the course grade, "Equivalent", should be input by the DCMD SPDP Manager only. The CAO Training Coordinator, DCMD Manager, SPDP Manager, or immediate supervisor should not disclose information contained in the DBMS Training Application to anyone outside DoD. Disclosure outside of DoD requires prior approval from AQOJ. Within DoD, this information may only be disclosed to the individual to whom the information relates and to individuals who need to know such information for the performance of their assigned duties. Personnel who input data into the DBMS Training Application must use instructions contained in the Training Application System Training Office User Manual. This appendix of the SPDP Interim Training Guide serves to provide SPDP specific instructions.

G-102 PROCEDURES.

a. A "QA" record must be built for each SPDP candidate, regardless of actual career series, enabling usage of the QA Menu's unique inquiry and report options. Although all course requirements and completions and skill area data are input through various options of the Training Office Menu, the QA Menu (option 12 of the Training Office Menu) is used to: build QA records, access QA Inquiry options, and generate QA Reports.

b. QA records are built through the “Maintain QA Personnel Data” option accessed from the QA Technical Development Menu. Building a QA record consists of assigning and inputting a three to five digit QA personnel code. (To add, change or delete QA personnel data, see the Training Application System Training Office User Manual, Chapter 12, Quality Assurance.) Two codes, the QAR and the QA ORG codes, are required entries; the remaining three are desirable entries. The following is a description of the codes:

(1) QAR Employee Code-A three to five digit alphanumeric code is used to identify the employee. The first character is alpha and identifies the employee's PLFA; the second through fifth characters are alphanumeric and uniquely identify the employee.

First Position	PLFA
A	DCMDS (only used for those personnel entered into the DBMS system prior to the consolidation of DCMDS into DCMDE and DCMDW)
B	DCMDE (or "DCMDN" for those personnel entered into the DBMS system prior to the consolidation of DCMDS into DCMDE and DCMDW)
C	DCMCI
L	DCMDW

(2) QA ORG Code-Up to five alphanumeric characters identifying the specific office to which the employee is assigned.

(3) Control Code-A numeric character identifying the employee's involvement with QA functions.

Control Code
1-In-Plant; Surveillance; Center or Depot QA Functions.
2-Support (Staff Specialist, Supervisors).
3-Personnel in Training Status.
4-QA Personnel Actually Performing Lab Functions.

(4) Position Title Code-A three alpha character code identifying the employee's position. The following are only examples; any three alpha characters can be used.

Position Title Code Examples
DLA-(used for military or non-A personnel)
ENG
QAI-(used for entry level intern)
QAS
SEN
SQA

(5) Parenthetical Designator-Up to three alpha code identifying the parenthetical designation in an employee's position title. An example is: SW-Software.

c. Once a QA record is built for the SPDP candidate, return to the Training Office Menu to input skill area and course data. (See Application System Training Office User Manual, Chapters 1-8 and 10-11.)

d. The DCMD SPDP Manager should ensure the Skill Area Codes for the SPDP (QX1 QX2, and QX3) have been added to the System's Skill Area Table. (See Application System Training Office User Manual, Chapter 3, Skill Area Table.) If missing, the following will be input into the Skill List:

(1) Skill Code-QX1

(a) Skill Description-Software Surveillance Level I
(b) Course Codes/IDs To Assign to Skill Code QX1:

Q/E12
Q/S38
F/X0A
F/SSWORK1
F/SSF

(2) Skill Cod-QX2

(a) Skill Description-Software Surveillance Level II
(b) Course Codes/IDs to Assign to Skill Code QX2:

F/SXX
F/ADA
F/SSWORK2
F/SSA
F/SSWORK3
F/SSE
F/CMM

(3) Skill Code-QX3

(a) Skill Description-Software Surveillance Level III

(b) Course Codes/IDs to Assign to Skill Code QX3: F/X1, a code to capture the required level III assessment process, must be assigned to the QX3 Skill Code. See e.(3) for customized requirements.

e. The applicable Skill Area Codes, as shown below, must be input into the system for each SPDP candidate's record. (See Application System Training Office User Manual, Chapter 4, Employee Skills)

(1) QX1-All software personnel assigned Level I software activities.

[NOTE: Level I-assigned software personnel who obtain Level I certification and desire to pursue Level II certification will be coded with the Level II Skill area, QX2, after completion of all Level I requirements. When this skill area is assigned, it will automatically assign a priority 1 that cannot be overridden. If the individual has not obtained Level I certification, each Level II requirement for that individual will be entered as a separate training requirement with training priority 2 until Level I certification is achieved. Training for personnel whom the Resource Estimating Model does not support entry into the SPDP will be coded similarly.]

(2) QX1 and QX2-All software personnel assigned Level II software activities.

(3) QX3-Level II certified personnel possessing a minimum of seven years' software experience and an IDP approved by the DCMD SPDP Manager and the DCMD Staff Software Professional to pursue Level III training and assignment opportunities.

(a) The DCMD SPDP Manager will customize the QX3 Skill Area, entering as requirements the code(s) representing the applicable specialized skill, training or assignment listed on the Level III IDP. F/X1 must be assigned to the QX3 Skill Area for all level III candidates. The District SPDP Manager will enter as completions the accomplished specialized skill(s), training or assignment(s), described on the Level III Assessment Worksheet, for which the individual has been approved by the DCMD SPDP Manager and DCMD Staff Software Professional.

(b) Section IV provides the codes for the required Level III assessment. This list is not all inclusive. As AQOF and the DCMC Software Center recognizes additional Level III-classified opportunities, the DCMC SPDP Lead Agent and DCMD SPDP Managers will provide standard course codes.

NOTE 1: Completion date for on-going special assignments, such as membership in working groups, will be the same as the assignment start date.

NOTE 2: Specialized Skill completion dates will be entered upon approval by the DCMD SPDP Manager and DCMD Staff Software Professional.

f. Upon approval of a candidate's certification, the SPDP Manager will change the employee's certification code from:

(1) Code 4-Certification Course Requirements Completed, TO:
(2) Code 1-Certified, Skill Used in Work.

g. The other certification codes are:

(1) Code 2-Certified, Skill not used in Work.
(2) Code 3-Certification Goal Established. (System generated upon input of Skill Area Code.)

h. For a definition of all codes used in the DBMS Training Application, see Appendix B of the Application System Training Office User Manual.

i. Certification Maintenance Procedures:

(1) Upon change of the certification status from "4" to "1" for newly certified Level II personnel, the SPDP Manager will enter a new requirement, Course # F/WRCT, to the individual's record. (F/WRCT, the certification maintenance course, must be taken every two years by level II and III certified personnel to maintain certification.)

(2) Until the DBMS Training Application is able to recognize certification maintenance courses, the Training Office Menu Requirements Screen will be used to track completions and due dates. The Requirement Established date will be used to indicate the date certification maintenance was granted; the Expected Class Start Date will be used to indicate the next date certification maintenance is required. Dates will be changed to reflect certification maintenance. To identify the initial certification maintenance need, the requirement established date will be coded with the YY/MM/DD of 11/11/11 and the expected class start date will be coded with the date two years after the individual's certification date.

APPENDIX - H

MANAGEMENT OF SPDP COURSES

H-100 PURPOSE. To establish procedures and assign responsibilities for the development, preparation, review, and revision of course materials and administration of training.

H-101 GENERAL.

a. The administration of training within DCMC will be conducted to achieve optimal technical training responsive to mission needs.

b. For the purposes of this appendix the following definitions are applicable:

(1) ANNUAL REVIEW. A formal review/analysis of all courses performed by DCMC SPDP Lead Agent on an annual basis using field comments and other inputs to determine whether any problems in existing courses need to be addressed.

(2) COURSE VALIDATION. A formal review performed by the Technical Advisor (TA) on courses to determine if the course is still adequate to meet the needs of DCMC personnel.

(3) PERIODIC COURSE EVALUATION. A formal review performed by the TA on courses that are taught on-site using DLA POIs to determine if the course curriculum is still adequate and current for use by DCMC personnel. Normally, periodic course evaluations are performed after the annual review unless otherwise specified by AQOJ.

(4) PROGRAM OF INSTRUCTION (POI). The lesson plan for an on-site course that includes a listing of course objectives. POIs are prepared in using standard elements as specified by AQOJ.

(5) PROJECT PLAN. The document written by the TA and DCMC SPDP Lead Agent course manager for all new courses being developed and when major changes to an existing course are to be accomplished. The project plan defines the scope and purpose, and contains standard elements as specified by AQOJ.

(6) TECHNICAL ADVISOR (TA). AQOF representative responsible for the currency of the technical content of a specific course program of instruction and the development of the course project plan, when required.

(7) SUBJECT MATTER EXPERT (SME). DCMD Software Professional responsible for the currency of the technical content of a specific course program of instruction.

H-102 PROCEDURES

a. Available training sources will be used to the maximum extent possible. These sources include established service schools (AFIT, AMEC, etc.) and local civilian educational institutions (vocational technical schools, colleges, and universities). When it has been determined that the required training cannot be obtained through established sources, DCMC unique training will be developed, with approval of the DCMC Executive Team.

b. When a training source is not available and the decision is made to develop training in-house, TAs and DCMC SPDP Lead Agent will be responsible for the development of the project plan;

TAs and SMEs, with assistance from AQOJ/DCMC SPDP Lead Agent, will be responsible for defining the training objectives of the course POI. DCMC SPDP Lead Agent will monitor the course project plan until the course's POI is released by DCMC SPDP Lead Agent for use by the instructors.

c. AQOF and Lead Agent will schedule and manage SSF, SSA, and SSE training; DCMDs will schedule and conduct all other on-site training courses and arrange for DCMD certified instructors, DCPSO or contractors to conduct the training, as applicable. DCMDs will also arrange for course delivery by local colleges or universities. Course feedback concerning the adequacy of in-house lesson plans including recommendations for improvement or requirements for new courses will be provided to DCMC SPDP Lead Agent and TA.

d. Course presentations will be audited by AQOF/DCMC SPDP Lead Agent /TAs/SMEs to ensure program objectives are being met.

H-103 RESPONSIBILITIES.

a. DCMC SPDP Lead Agent is designated as the office of primary responsibility (OPR) for all courses and will:

(1) Review input concerning the need for training and determine applicability, feasibility, validity, and duplication of existing courses.
(2) Provide advice to the TA on establishment, modifications, and/or deletion of courses.
(3) Monitor the presentation of all approved courses from the point of view of professional quality, currency of subject matter, and effectiveness.
(4) Recommend a TA be assigned for each course to perform the functions in paragraph c, below.
(5) Coordinate with the assigned TA, the development of a course project plan and POI for new proposed courses.
(6) Present project plans along with recommendations to the Executive Team for decision.
(7) Coordinate with an established source for training or assist the TA/SME in the development of the course POI.
(8) Validate all new POIs for format, purpose, and desired learning objectives and coordinate with DCMDs, customers, and Military Services, as appropriate. Prepare or obtain additional training aids (viewgraphs, films, handouts, reference materials, etc.) as necessary, to support the POI.
(9) Coordinate with TA, the initial pilot presentation of any new or major revised courses.
(10) Maintain a master library of all on-site POIs and issue reproducible copies to DCMDs.
(11) Conduct an annual review of all courses. The review will be based on field comments submitted in accordance with paragraph “d” below. Recommendations will be forwarded to the TA for update/revision, as appropriate.
(12) Yearly, issue a listing of POIs showing latest revision date, status, and general information concerning training aids and materials that are available.
(13) Yearly, issue a listing of TAs and SMEs assigned for each course.
(14) Maintain a quarterly training schedule of all training being conducted throughout DLA and distribute to each PLFA for information/use.

(15) Review employees' course requirements to ensure appropriate scheduling of classes.
(16) Consolidate student and instructor feedback on courses and forward to the responsible TA with recommendations for changes if needed.
(17) Periodically review DCMC activities for compliance to the requirements of this manual.

b. The TA in conjunction with DCMD SMEs will:

(1) Develop the technical content of the POI to include practical exercises and examinations. Each course POI must contain a formal evaluation of the student's ability to learn the skills specified by the course's learning objectives. A bank of questions for use by instructors will be included with each course POI. Seminar/Orientation training will not normally require a formal evaluation (test), since this type of training is usually informal in nature.
(2) Determine course prerequisites, options, and any unique equivalency criteria to be specified for DCMDs.
(3) Participate in the initial pilot presentation validate the effectiveness and appropriateness of the course materials.
(4) Review recommended changes and revise/update the technical content of POIs, as appropriate. changes to courses should normally be made only one time a year and in conjunction with the periodic course evaluation unless otherwise specified by AQOJ/DCMC SPDP Lead Agent .
(5) Provide technical assistance in conducting course audits.
(6) Review the technical content of non-DMET courses taught by the Military Services and validate the need for these courses in the DCMC Training and Development Program on an annual basis unless otherwise specified by AQOJ/DCMC SPDP Lead Agent .
(7) Coordinate with DCMDs, customers, and the Military Services, as necessary, to assure that the training needs of DCMC personnel are being met.

c. The DCMD SPDP Managers will:

(1) Arrange for and ensure on-site courses are conducted in accordance with approved POIs using only certified instructors.
(2) Contract with local colleges or universities for course delivery.
(3) Ensure Master Instructors administer and control course exams sufficiently to prevent the compromise of testing information.
(4) Evaluate student course critiques and instructor comments for all courses (DLA and non-DLA) and furnish significant comments to DCMC SPDP Lead Agent .
(5) Identify the need for new training courses to DCMC SPDP Lead Agent .
(6) Maintain a master set of lesson plans for use by DCMD certified instructors.
(7) Evaluate and determine the acceptability of equivalent sources of training. Questions on equivalent sources of training should be referred to the course TA, as needed.
(8) Participate with SMEs in the development of lesson plans.
(9) Monitor the development and delivery of training activities.

d. Student Responsibilities:
(1) Class Arrival And Departure. Unless otherwise specified, students should plan their arrival and departure dates and hours based on class start day and time of Monday, 0800 hours

and class completion day and time of Friday, 1600 hours. Class location (building and classroom numbers) for each particular course will be announced by letter or Email from HQ DCMC, the SPDP Lead Agent (DCMDE-J), the respective District Workforce Development, or the local Training Coordinator, depending upon which organization is scheduling the course. Course Instructors will also discuss course hours and requirements on the first day of class.

(2) Attendance/Absenteeism. The DCMC SPDP goal is full-time attendance in all courses. However, it is recognized that this is not always possible. No unexcused absences are allowed. The excused absentee standards are as follows: Two hours for one-week or less courses; four hours for two and three-week courses; and one day for four-week courses. If a student exceeds these times, they must withdraw from class without graduation certificate and reschedule for the next available course in compliance with the DCMC SPDP Guide.

These hours are not elective and must be approved in advance by both the Course Instructor and the student's AO Commander. They are permissible only for valid excuses such as illnesses or transportation problems. Early plane reservations are not valid excuses to depart before graduation. All students/personnel must be released from their regular duties for the entire training period, whether their office is just down the hall or across the country. Absence from class due to other work related matters is not a valid excuse.

In the case of weather-related absences that affect significant segments of the course, the Course Instructor will determine if the missed material will be rescheduled or withdrawn.

At the Course Instructor's discretion, make-up may consist of: attending a missed portion of course at a later offering; viewing a video tape of the missed portion; participating in a makeup-session after normal class time (if scheduled with the Instructor); or other makeup activity determined by the Course Instructor.

If a student does not complete the prescribed make-up within the allotted time as determined by the Instructor, no credit will be issued for any part of the course. An explanatory letter will be sent to the student's Commander indicating the reason(s) that the student did not complete the course. Make-up must be completed prior to course completion, unless unusual circumstances dictate a change in policy by Headquarters, DCMC.

If approved by the Instructor and the student's Commander, any leave taken by civilian students during the course must be reported by the student to his/her employing organization.

SPDP course monitors (e.g., HQ and District representatives) will perform random spot checks of SPDP courses to ensure course and student SPDP compliance.

(3) In Class Behavior. Students are expected to behave in a professional manner at all times. This includes: Being attentive and participating in all class activities. If a student has a problem in this area, they will be responsible for overcoming this by non-intrusive means such as standing up in back of class. Course Instructors will be sympathetic and supportive of students who use moderate methods to maintain alertness.

Students are expected to use professional standards and courtesy when interacting with faculty, guest lecturers, and other students. Students are expected to arrive on time, return promptly from breaks, and stay until the class day is complete.

(4) Student Evaluation. Students must meet prescribed standards to successfully complete any DCMC course. The Course Instructors will explain these standards as well as the student assessment methods (e.g., examination, practical exercise, etc.) to students on the first day of

class. All students must have a minimum score of 70% on exams to pass the course. Exams will be closed book and comprised of objective (multiple choice, true/false) and essay format questions unless otherwise specified by the Course Instructor. Missed exams will result in deduction of total exam points from the students cumulative class score. Make-up exams for extenuating circumstances (i.e., emergency) are at the discretion of the Class Instructor and must be administered immediately upon the student's return to class. Any remediation must be completed prior to course completion, unless unusual circumstances dictate a make-up exam as approved by the Course Instructor.

(5) Student Critiques. A class leader will be selected for all SPDP courses (typically the most senior ranking/grade student). Class leader duties will include, but not limited to, administering and collecting class attendance rosters and course critiques. Course critiques will be provided to the students the day before course completion and collected prior to course completion. The class leader will send the class critiques directly to the respective Workforce Development point of contact (depending on class location).

(6) Attire. Military students are required to wear their Service's seasonal uniform of the day unless otherwise specified by the Course Instructor. Civilian students will wear professional work attire when uniform is required for military students. Appropriate professional casual attire is authorized for both military and civilian students at all other times. Shorts, sandals, or other similar casual clothing is not considered appropriate unless otherwise specified by the Course Instructor.

(7) Handicapped Accommodations. Students with disabilities who are scheduled to attend DCMC courses should notify their District Workforce Development representative (West: Andrea Thomas, (310) 335-3109, East: Mitchell Skura, (617) 753-4290 as soon as possible prior to class start date to ensure that the necessary accommodations are made.

(8) Cancellations. SPDP course slots are allocated by the SPDP Lead Agent to the District SPDP Program Managers. They then assign the slots to specific individuals (based on Lead Agent priority fills). If circumstances dictate a student canceling from a SPDP course after notification, students must notify their local TC representatives. The local TC must notify their District Workforce Development representative for reallocation of the slot. Reallocations will be approved by the Lead Agent on the basis of Command priorities for SPDP certifications.

(9) Non-Attribution. DCMC encourages and expects full and candid discussions during class instruction, on field trips, and in dialogue with guest speakers. Achievement of this level of openness requires that when personal views of a sensitive nature are presented, such as support or criticism of any aspect of the Defense Department, they will not be repeated to the possible embarrassment of the person presenting them. Each individual is responsible for treating sensitive points or privileged information with discretion. Each individual will refrain from repeating the content of, or connecting the speaker with, the views expressed outside the group. Video tapes of DCMC presentations are to be used only for DCMC instructional purposes unless specific written permission for other use is obtained from all participants. Our objective is to enable students, instructors, and guest speakers to express their views freely and without concern for possible attribution or embarrassment.

(10) Smoking. For classes conducted within DoD facilities, in accordance with DoD Instruction 1010.15, March 7, 1994, smoking is not authorized inside any DoD building. Smoking is permitted on outside porches away from building points of ingress and egress. Receptacles for cigarette butts have been placed in DoD acceptable smoking areas.

APPENDIX I

Level II & III Certification Maintenance Option

I-100 PURPOSE. To provide SPDP Level II and III Software Surveillance Professionals an optional method for maintaining certification.

I-200 GENERAL. The procedure for electing this optional method of maintaining SPDP Level II and III certification is described in Section III of this TG. Personnel certified at SPDP Level III must also perform SC directed Level III tasks as specified in Section IV, 4-102a(5) or 4-102b(5) in order to maintain certification. (Form I-10 is to be used for detailing these tasks.)

I-300 MAINTAINING YOUR CERTIFICATION. You are required to maintain the level of knowledge demonstrated when you passed the necessary requirements for initial certification. This is accomplished by certification maintenance every three years, either through professional credits or testing and/or training.

a. If you do not recertify, your current certification level will lapse and you will no longer be recognized as being "certified" for the level of competency indicated. For those individuals certified at Level III this can result in either reverting to Level II only or if the Level II certification maintenance level has not been met, reverting all the way back to Level I. For those individuals at Level II this can also result in returning to Level I.

I-400 CERTIFICATION MAINTENANCE BY USE OF RECERTIFICATION UNIT (RU) CREDIT. You must earn the following RU credits within your three year certification period:

Level II - "20 RUs"

Level III - "35 RUs"

a. You cannot claim credit for any activities dated either before or after your certification period.

b. Certification maintenance credits are awarded for professional activities that either broaden your knowledge in any of the areas of the Body of Knowledge or are job enhancing. Examples of these activities include (but are not limited) to:

(1) Employment
(2) Educational enhancements (conference, courses, college classes, seminars, etc.)
(3) Professional activities (committees service, *conferences, workshops and forums, etc.)*

c. If you have any questions regarding the eligibility of the activity that is not listed within the journal application, please contact your DCMD Staff Software Professional.

APPENDIX I

RU/Continuing Education Unit (CEU) credits may only be used during the recertification cycle in which they are earned. The expiration date of the certification serves as the deadline for any education or professional activities *you may* wish to claim and may not be transferred from one recertification cycle to another.

d. Journal applications may be submitted as early as six months prior to the expiration of your certification but no later than two months past the expiration date. Journal applications received outside this time interval will be returned. If your journal application is late, you will be contacted about the options of recertifying by examination/training.

e. After your approved journal application is processed by the DCMC SC SPDP Manager for SPDP Level III's/District SPDP Manager for Level II's, you will receive a new certification and journal application from the Software Center Lead Agent.

I-500 CERTIFICATION MAINTENANCE BY EXAMINATION. You may also retain your Level II certification by taking the entire recertification examination which will cover the entire current body of knowledge needed to retain Level II certification. Please note that if you fail the examination, you will be decertified. Remedial action can be taken for those that have not regained certification through reexamination process if warranted by management. Management, with the help of the DCMD Staff Software Specialist will develop a detailed plan which will address specific problem areas. The proposed plan will then be forwarded to the Software Center for approval. The plan, once developed, will at minimum include a specific listing of the areas of deficiency, actions to be taken to address these deficiencies and an approximate period of time for accomplishing these actions. After the actions have been completed, records of the actions taken are to be forwarded to the Software Center for a final review, and if approved, certification will be reinstated at that point. If actions taken are not satisfactory, a detailed analysis of the areas which still need to be addressed will be returned to the DCMD Staff Software Specialist who with the cognizant CAO will decide on any future actions.

I-600 EXTENSIONS/APPEALS. You may file an appeal if your recertification has been denied for any reason. If, due to extenuating circumstances, you need additional time to recertify, you may request an extension. In either case, a complete written explanation must be directed to the DCMC SC SPDP Manager. Appeals must be received no later than six months after your expiration date; requests for extension must be submitted before your certification expires.

APPENDIX I

PART A: EMPLOYEE INFORMATION

NAME: _____
(LAST, FIRST, MI)

GS - - _____
(SCALE, SERIES, GRADE) (TITLE)

ADDRESS: _____
(ORGANIZATION)

_____
(OFFICE CODE)

_____
(ADDRESS 1)

_____
(ADDRESS 2)

_____ - _____
(CITY) (STATE) (ZIP + 4)

PHONE: ( ) - ext: ( ) -
(COMMERCIAL) (FAX)

EMPLOYEE CODE: _____ EMAIL: _____

☐ Yes ☐ No - Is any of the above information different than what is shown on your SPDP Level II/III application? I am currently SPDP Certified at Level ☐ II ☐ III **which expires on this date:** _____

PART B: JOURNAL SUMMARY

Enter your Recertification Units (RU) from your work-sheets in the "Claimed" column. *Note that the VALIDATED column is for reviewing official use only.*

CATEGORY	MAX	CLAIMED	VALIDATED
Professional Development	**9**		
Employment	**12**		
Course Instructor	**12**		
Student	**9**		
Committees	**4.5**		
Support of Level III Activities	**6**		
Publishing	**9**		
	TOTAL:		

Note: SPDP Level IIs require a total of 20 RUs, and SPDP Level IIIs require a total of 35 RUs to obtain recertification.

I the undersigned affirm that the information contained herein is correct, and if approved, I will be governed by the DCMC SPDP's related certification rules.

Applicant Signature: _____ Date: _____

Immediate Supervisor: _____ Date: _____

CAO Commander: _____ Date: _____

Recertification Decision: ☐**Approved** ☐**Disapproved (Attach Rational)**

Certification Official: _____ **Date:** _____

APPENDIX I

Professional Development

RU CREDIT	CATEGORY MAXIMUM
.1 RU per hour 1 RU = 1 CEU	9 RUs (for the 3 year period)

You can claim credit for conferences, seminars, workshops and forums sponsored by a company or technical society/organization (i.e. STC, SEPG, SEI Risk Conference, etc).

Pre and Post conference tutorials are considered separately for RU credit.

DLA's Annual Software Conference is worth 1 RU per day.

DOCUMENTATION REQUIRED:

Proof of attendance: Badge, attendance roster, sign-in sheet, certificate of completion, or travel voucher PLUS Activities Description: Program guide, outline, description, or schedule, etc.

Date: _____ Activity: _____ Sponsor: _____	RU Claimed
Date: _____ Activity: _____ Sponsor: _____	RU Claimed
Date: _____ Activity: _____ Sponsor: _____	RU Claimed
Date: _____ Activity: _____ Sponsor: _____	RU Claimed

APPENDIX I

Employment

RU CREDIT	CATEGORY MAXIMUM
3.6 RUs per year .3 RU per month	12 RUs (for the 3 year period)

Employment must be supporting a software intense program full time.

If not working a software intense program pro-rated credit can be claimed for the percentage of software yearly efforts during the recertifying period.

PERCENTAGE FOR PERIOD	CATEGORY MAXIMUM	YR1	YR2	YR3
Full to 3/4 year (1768 hr to 1326 hr)	**3.6 RUs** (per year)			
1/4 to v2 year (1325 hr to 844 hr)	**2.7 RUs** (per year)			
1/2 to 1/4 year (843 hr to 442 hr)	**1.8 RUs** (per year)			
1/4 or year (441 hr to 200 hr)	**.9 RUs** (per year)			
RUs CLAIMED FOR 3 YEAR PERIOD IS TOTAL OF = (YR1 + YR2 + RY3)				

- For individuals with less than 200 hours of identifiable software work per year will be reviewed by the Software Center for any recommendation of partial credit.

Documentation Required

A letter, from each first line supervisor or team leader, on organizational letterhead authored by either the applicant's direct supervisor or higher which verifies your job title and series, duties, and length of employment to those duties.

Applicant will submit appropriate SPECS data to substantiate activities during period of certification maintenance.

APPENDIX I

Courses

Instructor Credit

	RU Credit	Example	CATEGORY MAXIMUM
College	1 Semester Credit= 1.5 RUs	3 credits = 4.5 RUs	12 RUs (for the 3 year period)
Non-College	1 CEU = 1.5 RUs .15 RU per hr.	12 hr. Course = 1.8 RUs	
DLA Sponsored	1 CEU = 1.5 RUs .15 RU per hr.	12 hr. Course = 1.8 RUs	

- All courses must clearly apply to at least one area of the Body of Knowledge for the discipline.
- Non-College courses are company-sponsored, sponsored by a technical society or sponsored by an independent consultant. This category includes seminars and workshops.
- DCMC sponsored sources are sponsored by Headquarters the Software Center or regional offices.
- Course instruction which is directly related to the body of knowledge, which includes participation in course development/maintenance.

Documentation Required

A letter from the college or sponsoring organization verifying the courses given, dates and hours instructed -or-
Course outline or description which documents the instructor's name and course dates.

Educational institute: _____ Course Name: _____ Number of Hours: _____ Date: _____	**RU Claimed**
Educational institute: _____ Course Name: _____ Number of Hours: _____ Date: _____	**RU Claimed**

APPENDIX I

Courses
Student Credit

	RU Credit	Example	CATEGORY MAXIMUM
College	1 Semester Credit= 1 RU	3 credits = 3 RUs	9.0 RUs (for the 3 year period)
Non-College	1 CEU = 1 RU .1 RU / hr of class.	12 hr. Course = 1.2 RUs	
DLA Sponsored	1 CEU = 1 RU or .1 RU / hr of class	12 hr. Course = 1.2 RUs	
Home Study	1 CEU = 1 RU		

- All courses must be started and completed within your recertification period.
- All courses must clearly apply to at least one area of the Body of Knowledge for the discipline.
- An audited course (a course that awards no academic credit) earns the same RU credits as a course taken for academic credit. Eighty percent attendance is required.
- Non-College courses are company-sponsored, sponsored by a technical society or sponsored by an independent consultant. This category includes seminars and workshops.
- DCMC sponsored sources are sponsored by Headquarters, the Software Center or regional offices.
- Home study courses are offered through independent companies or agencies.

Documentation Required

College courses: A copy of an transcript or report card showing semester credits earned, course fide, completion date, PLUS a course outline or description.

Non-College courses: Letter or certificate of completion from the course sponsor verifying hours, dates and subject matter **PLUS** a Course description (table of contents, course outline or schedule)

DCMC sponsored courses: Certificate of completion or letter from the sponsor showing dates, hours, title and assigned CEU value.

Home-Study courses: Certificate of completion showing assigned CEUs or credit value PLUS course outline or description.

	RU Claimed
Educational institute:_____ Course Name:_____ Number of Hours: _____ Date: _____	

APPENDIX I

Courses

Instructor/Student Credit

Educational institute: ____________________ Course Name: ____________________ Number of Hours: __________ Date: __________ ☐ Instructor ☐ Student	**RU Claimed**
Educational institute: ____________________ Course Name: ____________________ Number of Hours: __________ Date: __________ ☐ Instructor ☐ Student	**RU Claimed**

Educational institute: ____________________ Course Name: ____________________ Number of Hours: __________ Date: __________ ☐ Instructor ☐ Student	**RU Claimed**
Educational institute: ____________________ Course Name: ____________________ Number of Hours: __________ Date: __________ ☐ Instructor ☐ Student	**RU Claimed**

Educational institute: ____________________ Course Name: ____________________ Number of Hours: __________ Date: __________ ☐ Instructor ☐ Student	**RU Claimed**
Educational institute: ____________________ Course Name: ____________________ Number of Hours: __________ Date: __________ ☐ Instructor ☐ Student	**RU Claimed**

APPENDIX I

Committees

RU CREDIT	CATEGORY MAXIMUM
1.5 RUs per year per committee	4.5 RUs (for the 3 year period)

- Committee work encompasses any Software Professional Development Program or Software Center activities.

- The committee must contribute to the advancement of the software profession.

- Work may be done on a Regional or National level.

Documentation Required

A letter from a committee chair stating the committee's mission, frequency of meetings, your duties and term of service, or other supportive documentation.

Committee Name: _____ Organization: _____ Term Length: _____ Dates Served: _____	**RU Claimed**
Committee Name: _____ Organization: _____ Term Length: _____ Dates Served: _____	**RU Claimed**
Committee Name: _____ Organization: _____ Term Length: _____ Dates Served: _____	**RU Claimed**

APPENDIX I

Support of Level III Activities
(And Policy Development and Implementation)

RU CREDIT	CATEGORY MAXIMUM
2 RUs per activity	6 RUs (for the 3 year period)

- Level III Activity encompasses activities which are above the individuals normal work load in support of Software Center Activities. These activities include but are not limited to:

-- Source Selection
-- SCE reviews of program offices
-- Risk Assessments
-- ISO 9000 audits/activities
-- Other initiatives as defined by the Software Center
-- District or HQ Staff Activity

- Work may be done on a Regional or National level.

Documentation Required

A letter from a activity chair stating the mission, frequency of meetings, your duties and term of service, or other supporting documentation.

Activity:_____ Organization:_____ Activity Length:_____ Dates Served:_____	**RU Claimed**
Activity:_____ Organization:_____ Activity Length:_____ Dates Served:_____	**RU Claimed**
Activity:_____ Organization:_____ Activity Length:_____ Dates Served:_____	**RU Claimed**

APPENDIX I

Publishing

	Author	Co-Author	CATEGORY MAXIMUM
Article	1 RUs per paper	.5 RUs per paper	9.0 RUs (for the 3 year period)
Book	3 RUs per book	1.5 RUs per book	
Presented Paper	1 RU	N/A	

- Each work may be claimed once during the re-certification period

- Each work must apply to at least one area of the applicable Body of Knowledge

- Papers must be presented at a professional sponsored activity.

Documentation Required

Magazines: Copy of both the article and the table of contents so we may identify the specific issue of the magazine, the title of the article, and the author/co-author.

Books: A copy of the book's title page showing title and author/co-author plus a copy of the table of contents.

Presented Papers: Copy of the entire program guide verifying the dates of the meeting/conference, and degree of your involvement.

Title of Article/Book/Paper: _____ Published: _____	**RU Claimed**
Title of Article/Book/Paper: _____ Published: _____	**RU Claimed**
Title of Article/Book/Paper: _____ Published: _____	**RU Claimed**

APPENDIX I

Body of Knowledge

1. Acquisition Strategies

Affect of current System Strategies on SW Acquisition Management
Strengths and weaknesses of current strategies
Impact of acquisition strategy on SW project planning and SW Engineering methods

2. Architecture

Software Architecture Fundamentals
Relationship of SW to System Architecture
Relationship of Architecture to SW Design
Impact of architecture on interoperability and reuse
Differences in C31, MCCR, and AIS systems
Evaluating and Acquiring target environments
Product line & domain engineering considerations (tradeoffs & analysis)

3. Contracting Issues

Development of SW Development Plan (SDP)
Use of SDP in proposal evaluation
Work Break-down Structure (WBS) for SW
Laws/regulations related to SOW and RFP
Quality issues
Contract types and their strengths and weaknesses (for all types of systems)
Deliverables (issues and tradeoffs)
SW portion of Proposal Evaluation
Data and intellectual property rights
Commercial & DoD best practices such as Joint Technical Architecture (JTA), Open Systems, COTS, Reuse
Model SOWs

4. Configuration Management

Standards for Configuration Management
Configuration Management Planning
Use of Configuration Management throughout SW life-cycle (SMRB, etc.)
Synchronization of HW and SW baselines
Configuration Management CASE tools
Management of Configuration Risks

5. Software Cost & Schedule Estimation

Strengths and weaknesses of methods and models used for SW cost & schedule estimation Relationships between WBS, development methodology, risk management and cost & schedule estimation
Software cost & schedule reporting
Validation/assessment of fidelity of cost and schedule estimates for SW intensive projects Life Cycle Costs (met PDSS)

6. Program/Project Office Organization & Relationships

Staffing
Organization
Matrix Support Groups
Resource Management
Project Control & Tracking
End User Involvement
IPT's and working groups
Intergroup Coordination
Corrective Actions

Lessons Learned
Management Issues

7. Software Development and Acquiring maturity

Roles of assessment/evaluations
Methods available to assess maturity
Strengths and weaknesses of current methods
Applications of assessments in contracting
Frequency of evaluations/assessments
Responsibilities for evaluations/assessments

8. Engineering Approaches & Methodologies

Current approaches (e.g. Functional, object-oriented)
Strengths and weaknesses of design approaches
Effect of design approach on SW engineering, project planning, CASE selection and use, design reviews & doc.
Software Design Guidance (laws, regulations, Stds. Etc.)
Technical fundamentals
Development paradigms (waterfall, sprial, prototyping, incremental, IE)
Criteria for paradigm selection
Risks and benefits of each development
Paradigm selection resources/management issues

9. Technical Assessments

Business Process Reengineering
Adapting maturing technologies
Development Information System/Enterprise
FPI Guidance, Process, Tools
Model Relationship

10. Interoperability

Interoperability and Data Administration Issues
Interoperability and data administration guidance (laws, regulations and standards)
Relationship of Software/System Architecture and Interoperability

11. Independent Verification & Validation (IV&V)

IV&V definition, benefits and disadvantages Determine IV&V levels
IV&V guidance
IV&V relationships to risk management and testing
IV&V effect on development schedules

12. Life Cycle Management

Cost factors identification
Key Software support transition issues
Organic/Outsourcing Post Deployment Software Support
DoD Life Cycle Guidance (Directives, Instructions, Standards, etc.)
Documentation/data
Life Cycle Planning (CRLCMP, Acquisition, Transition, Support, CRWG, etc.)
Continuous Process Improvement
End User Involvement
Corrective Actions Management
Contract Baseline

Relationship with contractor

13. Metrics

Appropriate metrics for visibility into development process, softwue product, system progress
Metrics Collection methodologies
Metrics Interpretation
Bench marking practices

14. Open Systems

Open System Migration Issues
Open System guidance (Application Portability)
Profile, regulations, standards)
Open System adaptation effect on acquisition
Commercial Off the Self/Non-Development Item (COTS/NDI) Issues

15. Software Quality Management

Software quality factors
Software quality guidance
Quality improvement methods (Formal inspection, Walk throughs, Clean room, Peer reviews, etc.)
Software product Assessment Techniques
Software Quality Assurance Planning and Techniques

16. Software Requirements Management & Analysis

Software Requsirement management definition
Requirements Management guidance
Requirements Management responsibilities
User Involvement
Requirements Planning issues
Types of requirements definafion benefits and risk of prototyping
Requirements Management Issues (baseline, traceability, tool support, life cycle requirements variance, etc).
Requirements/COTS Issues
Critical measures of effectiveness for operational issues and criteria

17. Software Reviews and Audits

Government management of reviews and audit process
High Interest Software issues and their indicators
Critical Software life cycle reviews
Key Software review questions and data
Entrance & Exit Criteria
Software review relationship to system reviews

18. Software Reuse

Software Architecture/reuse relationships
Risk Mitigation through reuse
Reuse guidance
Domain specific reuse paradigm
Existing Reuse repositories
Contracting Mechanism for reuse
Impact of Open Systems on software reuse

19. Software Acquisition Risk Management

Software Risk Analysis
Software Risk Management issues (planning, etc.)
Varying risk profile throughout life cycle
organizational risk mitigation entities (SEMP, RMWG, TIWG, CRWG, CRLCMP, IPT's etc.)
Risk Management guidance
Domain Competent Work Force

20. Software Security

Software security definition
Security Risk Management
Software security guidance (regulations, standards, "orange book")
System Certification
Contemporary security developments

21. Software Testing Issues

Software Testing Phases (DT&E, F/OT&E)
Appropriate Testing metrics (software maturity, error density)
Type of Testing (unit, FQT, Integration, DT/OT)
Software Integration testing issues
Sufficient software testing
Test and Evaluation Master Plan relationships to Testing
High Integrity Systems
Identification of Testing Risks

22. Emerging Issues and Technologies

Joint Technical Architecture (JTA)
Domain & product line engineering
software technology state of the art

23. Surveillance Phases and Planning

TBD